SYMBOLISM AND REALITY

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Volume 15

Charles W. Morris

Symbolism and Reality
A Study in the Nature of Mind

SYMBOLISM AND REALITY
A STUDY IN THE NATURE OF MIND

by

CHARLES W. MORRIS

WITH A PREFACE BY
ACHIM ESCHBACH

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CONTENTS

Preface ix
by *Achim Eschbach*

SYMBOLISM AND REALITY: A Study in the Nature of Mind

Part 1 Foreword 1

Part 2 The Thesis of Symbolism 5

Part 3 Some Psychological and Biological Considerations 27

Part 4 The Logic of Symbolism 47

Part 5 Givenness and Reality 63

Part 6 Philosophy and Civilization 81

Summary 101

Writings by Charles William Morris 107

Index of Names 123

Index of Subjects 125

Charles William Morris, Jr. (1903-1979).

PREFACE

CHARLES WILLIAM MORRIS: SEMIOTICIAN

Charles William Morris was born on May 23, 1903, in Denver, Colorado. He began his studies at the University of Wisconsin in engineering but soon turned to biology, psychology, and finally philosophy. In 1922 he received his Bachelor of Science degree from Northwestern University. Morris then continued his studies at Chicago with George H. Mead, completing his PhD in 1925 with a dissertation on *Symbolism and Reality: A Study in the Nature of Mind*, published here for the first time in its original form.

From 1925 to 1931, Morris was instructor in philosophy at Rice Institute, from 1931 to 1947 associate professor at the University of Chicago, from 1948 to 1958 lecturer at the same institution, and from 1958 to 1971 research professor at the University of Florida. His professional activities also included research at Harvard University (1951-1953), the New School for Social Research and the University of Texas. As an emeritus, he lived in Gainesville, Florida, where he died on January 15, 1979. Charles Morris was a Fellow of the American Academy of Arts and Sciences, a member of the American Philosophical Association, and in 1936-37, president of the latter's Western Division. He was strongly committed to the Unity of Science movement, organizing the fifth and sixth international congresses on this subject, and he was intensively involved in the rescue of European scholars forced to flee from the Nazis. Max Fisch reports that Morris, more than any other American philosopher, was "responsible for the westward migration of logical positivism and empiricism from Vienna and Berlin" (Fisch, 1979:159). A lively interest in Asian philosophy, in particular Buddhism, awakened during his early days at university, also exerted a considerable influence on his work. In 1948 and 1949 he traveled extensively in China and India, and in 1948 he attended the second conference of East-West Philosophers at the University of Hawaii, resulting in his work on the journal *Philosophy East and West.*

Given the widespread influence of many of his ideas, it is astounding that there is so little secondary literature on Charles Morris, although a few excellent studies on specific aspects of his work exist, in particular Barbara Eakins' dissertation (1972) and Richard Fiordos' study *Charles Morris and the Criticism of Discourse* (Fiordos, 1977). His chief exponent has been Ferruccio Rossi-Landi, whose own studies (e.g. Rossi-Landi, 1975 and 1976) also draw on earlier work in Italian semiotics; another useful source is Karl-Otto Apel's introduction to the German translation of *Signs, Language and Behavior*. The bibliography below contains an overview of other secondary sources on Morris. A comprehensive and critical assessment of his work as a whole, however, has yet to appear: the present edition of *Symbolism and Reality* may encourage this gap to be filled.

The fundamental significance of the work of Charles William Morris is based on the fact that he was a philosopher in the widest sense of the term, a man who changed the world, leaving it a different place than it had been before. Morris left behind a large number of writings, but not all have been made available, and the breadth of his work as a whole has gone unrecognized. His contributions to sign theory have gained a firm foothold in international semiotic discourse, but his axiological studies as well as his work on the theory and history of science have largely been ignored, as have his writings on the subject of mind and his essay on various paths of life. A complete list of his manifold activities should also include his organizational work for the Unity of Science movement and the extensive and meticulous editorial work he invested in the *Encyclopedia of Unified Science*, the *Journal of Unified Science*, and the publication of works by George H. Mead, his mentor in philosophy. Another of his many talents has been pointed out by Thomas Sebeok (1980) — poetry. And one further gauge of the wide range of his interests was his fascination with magic: in his later years he made numerous appearances as a magician and wrote a small book on the subject, which — along with a study of his dog named *Binx* — is located in the collection of his unpublished papers at the University of Indiana.

Much like Petrarch or Herder, Morris should not be viewed solely as a poet or as a philosopher. He possessed a rare combination of poetic temperament and intellectual rigor, one which permitted reality to be comprehended in terms of the most significant concept in pragmatics — the concept of experience. It is hardly surprising that such a variegated palette of contradictory talents seems to have produced remarkable results.

Roman Jakobson addressed Charles Morris in a letter of May 17, 1948, in the following terms: "You are now in the country the leading man in semantic problems, the leading man in the science of signs..." These remarks proved to be almost prophetic in light of the rapid development of semiotics after the mid-1960's, notwithstanding major contributions made by Charles S. Peirce, George H. Mead, John Dewey, Karl Bühler, Ernst Cassirer, to name but a few. But his prominence in the field has been based on only a few of his writings, and as Max Fisch (1979:159) has pointed out, other aspects, which Morris himself always regarded as complementary and hence vital to the proper understanding of his work as a whole, have suffered from corresponding neglect.

Charles William Morris was an original thinker who was certainly well aware of the philosophical positions of his predecessors and teachers. He constantly made critical comparisons of his own ideas with those of other philosophers, but from his earliest writings to his last philosophical treatise on the pragmatics movement in America, he developed his own powerful interpretation of basic issues in philosophy. Although Morris did set down an overall plan to develop a philosophical "system" incorporating logic, ethics, esthetics, political theory, religion and unified science and to be based on the organon of a general theory of signs, his various studies are not a bridge to this envisaged system but focus instead on the three or four main cornerstones of his work: theory of signs, theory of values, theory of mind, and support for the unity of science. In this same prospectus, Morris himself noted the continuity in his work, beginning in 1922, first formulated in his dissertation, *Symbolism and Reality*, and culminating in *Signs, Language and Behavior* and *The Nature of Mind*, both published at the same time he developed his systematic plan. He describes the central core of his work over these years as follows:

> I share the conviction held by many others that the movement of thought called "symbolism" is of great significance. Not only does this movement cut across the traditional lines of division among philosophers, but it coordinates in a remarkable way the work of linguists, sociologists, psychologists, anthropologists, and biologists, in so far as their work connects with the topic of mind. In the degree that the symbolic movement is significant, a work which develops systematically the basis of the movement, and at the same time applies this analysis to the topic of mind and to certain basic philosophical problems, can at least claim to be an important contribution to critical thought. Whether the claim is substantiated depends, of course, on the quality of the work itself (Morris, ca. 1940:1).

Even if Morris did not reach conclusive formulations of all aspects of the entire philosophical system he intended to cover, his manifold preliminary studies, essays and lectures have two things in common: they are characterized by Morris' sensitivity to continuities and correspondences in separate problems and by the lack of finalized formulations, which preclude the establishment of a set of restrictive dogmas. His studies on the philosophy of mind, in particular, reveal that a genuine interdisciplinary and process-oriented approach, such as Morris followed in all his work, must ultimately run counter to closed philosophical systems, since the latter prove to be an obstacle to any living thought processes. It is, however, this very responsibility towards the unfolding process of knowledge which prevents the symbolic way of thought from addressing final generalizations of dubious relevance. Knowledge for its own sake seems to Morris to be a contradiction in terms: the most profound truth is empty, unless seen in terms of its practical relevance. This insight is based on the concept of experience, central to pragmatics as well as other schools of thought, the concept which also supplies the foundation for *Symbolism and Reality*.

The majority of recent publications in semiotics, a-historical in their approach, convey the impression that semiotics is a new type of discipline which has just been called into being. Closer examination, however, reveals this position to be incorrect and untenable. If, in discussing the historical tradition of semiotics which extends as far back as classical antiquity, we follow Charles Morris (e.g. Morris, 1934, 1935 and 1941) and not the proponents of the traditional historical approach, this does not mean to imply that Aristotle or Plato, the Stoics, Augustine, the medieval modistae, Locke, Leibnitz, Lambert and even Kant were semioticians, however unwittingly. Instead, it implies that these philosophers, along with many other philosophers and linguists, mathematicians and medical scholars, estheticians and psychologists, have long addressed issues and problems which are central to semiotics, such as the nature and structure of signs and meaning, the function of signs in perception and thought, the role of signs in communication — be it human, animal or even machine. To conclude from this, however, that semiotics is the new organon of the sciences, as Charles Morris once termed it, subsuming all the classical scientific disciplines from theology to linguistics and from biology to poetics and rhetoric, is erroneous: this argument is based on a scientific fallacy which will be discussed below in greater detail.

It must be said, however, that in the late 19th and early 20th centuries, changes in the semiotic discussion occurred that seem to contradict the point made above. With more or less explicit reference to the *characteristica universalis* of Leibnitz, the so-called universal language movement, found above all in British and French philosophy and linguistics in the 17th, 18th and early 19th centuries but also affecting the late 19th century Neo-Grammarians and — last but not least — the early stages of mathematical or symbolic logic associated with Frege, Russell, Carnap, and the Polish and Italian schools of logic, supported the notion that a universal language of symbols could be developed. This language of symbols, first of all, with clearly defined rules of formation and transformation resulting in a semantically based repertoire of signs, would bring about the demise of vague metaphysical terminology and reveal a number of supposedly philosophical problems to be artificial. And secondly, an approach free of metaphysics promised to be so widely applicable that the rapid proliferation of subdisciplines which followed, e.g. ethnosemiotics, biosemiotics, semiotics of music, zoosemiotics, semiotics of art, semiotics of architecture, etc., is hardly surprising.

Seen in the light of this claim to universality, the subsequent boom in semiotics starting in the late 1960's can be seen as a natural development. Given the number of scholarly activities in the field, one can even say that semiotic studies have become institutionalized: colloquiums, symposiums, summer schools and congresses are held on national and international levels; national and international semiotic societies have been and continue to be founded; there are now some thirty semiotic journals and numerous series of publications series, not to mention the veritable flood of monographs, an overview of which is contained in bibliographies of the field (cf. Eschbach, 1974; Eschbach/Rader, 1976; Eschbach/Eschbach-Szabó, 1986). It should also be noted that semiotics has recently been added to the curriculum in schools all over the world as well as numerous degree programs in higher education. In all modesty, semioticians should be proud of such progress in the field — it has almost achieved the status of an independent discipline — and pleased that its descriptive model has been able to provide a kind of scientific *interlingua*, one which has not only improved the comprehension of and communication between scientific disciplines but has also permitted the recognition and formulation of basic problems on a higher theoretical level.

When the claim is made that semiotics, despite this success, is nonetheless experiencing a crisis (cf. Eschbach, 1987), this is to say that the current success of this field, now so fashionable, parallels what followed the discovery of cybernetics or information theory a few decades earlier — and is inversely proportional to the development of a critical and well-founded methodology in sign theory itself.

Charles W. Morris frequently discussed the historical development of behaviorist semiotics. In this context, however, I will focus on only two particular aspects, chosen to highlight the basic concepts underlying behaviorist semiotics as well as its most significant contributions.

In describing the scientific stance of behaviorist semiotics, Charles Morris always emphasized that it would be more appropriate to replace the term "behaviorism" with the term "scientific empiricism", in so far as this type of empiricism is oriented towards the methodology and results of natural science. He writes:

> Like science, this empiricism is positive in temper, recognizes the social and cooperative nature of knowledge without relinquishing the control function of individual experience, makes extensive use of the formal sciences, and is naturalistic in outlook (empirical realism). [...] The interest in the empirical dimension of meaning (without in general a stress upon the category of the social) is typical of movements stemming from Mach. These groups emphasize the control function of empirical experience, and their interest in reducing the meaning of various concepts to direct elementary experiences indicates their close relation to English empiricism. The concern with the formal sciences in contemporary empiricism is in part instrumental and in part an attempt to bring them within the scope of empiricism by regarding them from the point of view of semiotic. Scientific empiricism thus combines, as does science itself, the three complementary attitudes of pragmatism, traditional empiricism, and formalism (Morris, Some Notes, 3).

At the top of the list of the founding fathers of behaviorist semiotics, according to Morris, are the protagonists of pragmatism, William James, John Dewey, and George H. Mead, as well as the Europeans Giovanni Vailati, Günther Jacoby, Wilhelm Jerusalem, F.C.S. Schiller and Théodore Lalande, followed by British empiricists from Francis Bacon to John Stuart Mill. The third group Morris points to are the neopositivists of the Vienna Circle, starting with Ernst Mach and including Otto Neurath and Moritz Schlick, as well as schools of logical positivism in Berlin, Warsaw, Prague, Paris, etc., featuring such prominent scholars as Rudolf Carnap, Philipp

Frank, Hermann von Helmholtz, Hans Reichenbach, Louis Couturat, Giuseppe Peano, Jan Lukasiewicz as well as many others.

Although a detailed analysis of the scholars listed above reveals a wide range of divergent approaches and accentuations, they shared one particular goal: declaring metaphysics to be bankrupt, they called for a new method, free of metaphysics, formal, empirical, and positivist, to transform scientific analysis into the formal logical analysis of scientific language. In short, scientific analysis should become the analysis of signs. This process was described by Morris as follows:

> Semiotic is regarded as the natural completion of contemporary stress on logical analysis. It is suggested that analysis of the symbolic process reveals three relations of symbols to objects, to persons, and to other signs. These three sets of relations are regarded as the three dimensions of meaning, and are called "existential meaning", "pragmatic meaning" and "formal meaning". [...] To specify the meaning of any symbol or symbol combination is to specify the three sets of relations. Meaning turns out to be a relational and functional process rather than an entity; as an objective process, all meaning is potentially intersubjective: theoretically what any sign means to anyone can be exhaustively determined by any other person. Thus the present analysis confirms the first part of the thesis of physicalism, i.e. that all propositions are in principle verifiable by anyone. [...] It is claimed that semiotic, itself a science, is the *novum organon* of the special sciences and the philosophy of scientific empiricism (Morris, Semiotic,1)

Philosophers, logicians, psychologists, linguists, psychopathologists, biologists and sociologists sharing this view were drawn to several conferences; in 1923 a small meeting was held in Erlangen, bringing together members of the Berlin and Vienna schools; in 1929 the so-called "Prague Preconference" was held on "The Epistemology of the Exact Sciences"; in 1934, following a conference in Königsberg, the Congress of Unified Science was convened in Prague, attended for the first time by scholars from the United States, Poland, and France. Further conferences were held at the Sorbonne in Paris in 1935, and in Copenhagen in 1936. The most important of these meetings, however, was the one in Prague, where the Unity of Science movement was founded and its publications, the *Journal of Unified Science* and the *International Encyclopedia of Unified Science*, were formally established. The programmatic goals of this new movement, discussed below in more detail, are largely identical to those of behaviorist semiotics.

A student of social psychologist George H. Mead at Chicago, Charles W. Morris worked for some fifty years to develop the set of sign theoretical instruments which accorded him the key position in modern semiotics — as Max Fisch, 1979:159, so aptly remarked — alongside his countryman Charles S. Peirce. Starting with his dissertation in 1925, which was supervised by Mead and clearly reflected the latter's social behaviorism as opposed to classic Watsonian behaviorism, Morris subsequently developed his characteristic stance on behaviorist semiotics in a series of articles and his two most important monographs, *Foundations of the Theory of Signs* (1938) and *Signs, Language and Behavior* (1946). The latter opens with one of the most significant formulations of his position, modified only slightly in his third major study, *Signification and Significance* (1964). He aimed to develop a theory of signs broad enough to cover all possible types of signs, i.e. human or animal, not restricted to the scientific context, and able to encompass the signs of art, religion, philosophy, jurisprudence, mathematics, logic, and rhetoric. This claim to universality was justified by the fact that signs were to be discussed strictly from the perspective of the behavioral dispositions they cause in their interpreters. Morris describes this approach in *Signs, Language and Behavior*, much of which is devoted to establishing his terminology for the analysis of linguistic and non-linguistic signs, as follows:

> The book is written from the point of view first expressed by Charles Peirce, that to determine the meaning of any sign "we have simply to determine what habits it produces." Signs are therefore described and differentiated in terms of the dispositions to behavior which they cause in their interpreters. The approach is, in a wide sense of the term, behavioral, and owes much to the theories of behavior developed by George H. Mead, John Dewey, Edward C. Tolman, and Clark L. Hull (Morris, 1946:v).

The fact that Morris correctly refers to the influence of Charles Peirce and John Dewey in the introduction and elsewhere in his book, speaks for itself and requires no further comment in this context. His vehement disputes with Dewey and his followers, however, should not go unmentioned, and they are documented in Dewey's article "Peirce's Theory of Linguistic Sign, Thought, and Meaning" in the 1946 issue of the *Journal of Philosophy*, and Morris' replies in the articles "Peirce, Mead and Pragmatism" (1938) and "Signs about Signs about Signs" (1948). Even though in a letter to Dewey, Morris claimed that "history will not find us so far apart as you suppose," he also went on to write the following: "I am sorry that you found *Signs, Language and Behavior* to be of so little interest, and I regret that you magnify the differences between our positions."

According to Morris' definition of his own position, behaviorist semiotics is the science of signs, and semiosis is the process studied by semioticians. To lay the foundation of a comprehensive and fruitful science of signs, Morris argued, it is first necessary to develop a language which can be used to talk about signs. The second major point which is relevant here is his conviction that the basic concepts of behaviorist semiotics can be formulated in the terminology used by the biological and physical sciences. In *Signs, Language and Behavior*, Morris made the following claim:

> The present study is based on the conviction that a science of signs can be most profitably developed on a biological basis and specifically within the framework of the science of behavior (Morris, 1946:2).

In *Foundations of the Theory of Signs*, written eight years earlier, Morris had already made a similar proposition:

> And since it will be shown that signs are simply the objects studied by the biological and physical sciences related in certain complex fundamental processes, any such unification of the formal sciences on the one hand, and the social, psychological, and humanistic sciences on the other, would provide relevant material for the unification of these two sets of sciences with the physical and biological sciences (Morris, 1938:2).

With the scientific boundaries of behaviorist semiotics so delineated, a behaviorist definition of the sign can be derived systematically, although it should be noted that Morris preferred to speak more cautiously of sign characterization, not definition. In 1938 he introduced the term "sign" as follows:

> The most effective characterization of a sign is the following: S is a sign of D for I to the degree that I takes account of D in virtue of the presence of S. Thus in semiosis something takes account of something else mediately, i.e. by means of a third something. Semiosis is accordingly a mediated-taking-account-of. The mediators are *sign vehicles*; the takings-account of are *interpretants*; the agents of the process are *interpreters*; what is taken account of are *designata* (Morris, 1938:3 f.).

In 1946, Morris abandoned this characterization of the sign, which had become a topic of heated debate and received considerable criticism, in favor of a more classical definition in behaviorist terms:

> If anything, A, is a preparatory-stimulus which in the absence of stimulus-objects initiating response-sequences of a certain behavior-family causes a

> disposition in some organism to respond under certain conditions by response-sequences of this behavior-family, then A is a sign (Morris, 1946: 10).

In its efforts to avoid the pitfalls of mentalism and metaphysics, behaviorist semiotics was thus reduced to a discussion of stimulus-response relationships and the functions of substitute stimuli which provoke specific reactions in certain organisms.

This tendency towards neopositivist reductionism is even more strikingly evident in discussions of the term "meaning". In *Foundations of the Theory of Signs*, Morris flatly rejects the term as follows:

> In general it is well to avoid this term ("meaning") in discussions of signs; theoretically it can be dispensed with entirely and should not be incorporated into the language of semiotic (Morris, 1938:43).

In *Signs, Language and Behavior*, Morris again renounces meaning, adding the following justification:

> The term "meaning" is not here included among the basic terms of semiotic. This term, useful enough at the level of everyday analysis, does not have the precision necessary for scientific analysis. Accounts of meaning usually throw a handful of putty at the target of sign phenomena, while a technical semiotic must provide us with words which are sharpened arrows. "Meaning" signifies any and all phases of sign-processes (the state of being a sign, the interpretant, the fact of denoting, the significatum) and frequently suggests mental and valuational processes as well; hence it is desirable for semiotic to dispense with the term and to introduce special terms for the various factors which "meaning" fails to discriminate (Morris, 1946:19).

If an analytical approach chooses to avoid certain concepts — as in this case behavioristic semiotics dismissed meaning as an unnecessarily confusing term — this may seem to be a regrettable backslide. The behaviorists themselves, however, saw this as a positive move, since behaviorist semiotics claimed to be able to replace the outdated mentalistic concept of meaning with the more powerful and precise analysis of signs.

It was mentioned earlier that Charles Morris and behaviorist semiotics understood sign analysis as the analysis of the various languages of science in terms of its own semiotic metalanguage. The underlying premise that sign vehicles are already at hand enabled Morris to define the tasks of sign analysis as follows:

> Sign analysis is the determination of the syntactical, semantical and pragmatical dimensions of specific processes of semiosis; it is the determination of the rules of usage of given sign vehicles (Morris, 1938: 48).

In accordance with Rudolf Carnap's logical syntax, Morris made the following claim in his important article "Esthetics and the Theory of Signs" (1939):

> And since a signs is exhaustively characterized by giving its syntactical, semantical, and pragmatical components and relations, the same is true of the analysis of esthetic signs (Morris, 1939:142).

Charles Morris' division of sign analysis into the almost magical triad of syntax, semantics and pragmatics, made as early as 1938, had a profound influence on the semiotic discussion: in fact, it is almost impossible to imagine the current discussion without these three dimensions.

S'
----------syntactical
S
semantical-------- --------pragmatical
O I

The graphic illustration of the three semiotic dimensions shows the syntactical relation between S and S' as the relation of signs to one another (examples of this would be the words within a sentence, the sentences in a text, the symbols in a formula, etc.); the semantical relation between S and O examines the objects, relationships, facts, etc. which a sign signifies; the pragmatical relation between S and I investigates the effects of signs on their users. Morris claimed that these three semiotic dimensions and their interrelations characterize all possible sign processes. Turning this around, this implies that an exhaustive analysis of the separate dimensions and their interrelations leads to exhaustive sign analysis. A detailed semiotic analysis of the three dimensions, according to Morris, is possible when a syntactical, a semantical, and a pragmatical metalanguage have been developed and are used to describe the particular aspect in question. In more concrete terms, he suggests the following for the case of syntactical analysis:

> Logical syntax deliberately neglects what has here been called the semantical and the pragmatical dimensions of semiosis to concentrate of the logico-grammatical structure of language, i.e., upon the syntactical dimen-

> sion of semiosis. In this type of consideration a "language" [...] becomes any set of things related in accordance with two classes of rules: *formation rules*, which determine permissible independent combinations of members of the set (such combinations being called sentences), and *transformation rules*, which determine the sentences which can be obtained from other sentences. These may be brought together under the term "syntactical rule". Syntactics is, then, the consideration of signs and sign combinations in so far as they are subject to syntactical rules. It is not interested in the individual properties of the sign vehicles or in any of their relations except syntactical ones, i.e., relations determined by syntactical rules (Morris, 1938: 14).

Analogous definitions hold true for semantical and pragmatical analysis.

Presupposing that semiotic analysis is sign analysis of the semiotic dimensions of the languages of the separate sciences, semiotics acquires a special status among the sciences: "semiotic is not merely a science among sciences but an organon or instrument of all the sciences" (ibid., 56). And, by arguing that semiotics is sign analysis of language, in accordance with neopositivist concepts of the logical analysis of language, the leading position of behaviorist semiotics within the so-called Unity of Science movement becomes clear. A plan for the organizational structure of the *International Encyclopedia of Unified Science*, written by Otto Neurath and sent to Morris, contains the following suggestions under the heading "general comments":

> Since the goal of this encyclopedia, in contrast to other encyclopedias, is not to include as many facts as possible, but to expose the logical framework of science as a whole, some volumes will examine general questions of various kinds. The "unity of science" will need be a subject of discussion itself, as well as the unified language of the special disciplines, the uniformity of definitions, reductions, etc. All viewed from the perspective of the "instruments". This also includes a discussion of observational evidence, its significance for the structure of the sciences. The logic of science and everything that goes with it (Neurath, 1936:2).

What Neurath meant by "everything that goes with it" is further explained by the following:

> The theories of physics, biology, psychology, sociology etc. will be examined in terms of their logical structure and their significance. At the same time, all problems which we know from experience to be specious should be avoided. The presentation should be positivist. [...] Traditional terminology and formulations should be included in that they can be subjected to criticism from the positivist stance and repudiated. Logic,

> mathematics, problems connected with metalanguage, semantics, semiotics, etc. should be discussed in terms of their significance for the real sciences (ibid., 3).

The specific contribution of semiotics to the Unity of Science movement, according to Charles Morris, is its ability to use the language of science to explore the relations between the concepts employed in the various sciences. He summarized this as follows:

> Semiotic serves in the unification of science at both levels: it provides a comprehensive language for talking about a field of phenomena (sign phenomena) which has been looked at piecemeal by various special disciplines; it provides an instrument for analysis of the relations between all special scientific languages. It is both a phase in the unification of science and an instrument for describing and furthering the unification of science (Morris, 1946:224 f.).

The critical assessment of behaviorist semiotics has been the product of objections raised on a variety of systemic levels. Commentaries on more abstract scientific theoretical and epistemological aspects have been abundant (cf. Apel, 1980; Müller, 1970; Bentley, 1947; Fano, 1959; Smith, 1948; Black, 1947; Storer, 1948) and will not be summarized here; instead, three questions of more specifically semiotic relevance will be mentioned at least briefly: 1) how signs and meaning are constituted in terms of static vs. dynamic models of meaning; 2) how the semiotic dimensions — pragmatical, semantical, and syntactical — are to be isolated or hierarchized; and 3) how signs are to be identified and interpreted.

In so far as behaviorist semiotics based its analysis on the assumption that sign analysis is applied to sign vehicles already in existence, it never addressed the question of how signs and meaning are constituted. This behaviorist assumption seems at first glance to be in accordance with the position held by linguistic philosophy, i.e. that our (language) activity implies that we have always had (language) signs at our disposal. The fact that this congruence is only an apparent one, however, comes to light when the process of establishing new sign-vehicle relationships is considered. Whereas behaviorist semiotics regards this as an example of conditioning, during which process a largely passive and conditioned organism is, figuratively speaking, imprinted with an engram, critical semiotics argues in favor of an active interpretive process, during which an individual uses his previous practical experience to develop a new synthesis or interpretation. While behaviorist semiotics regards signs and meaning as firmly tied to material sign vehicles and immaterial significations of objects, irrespective of origin, critical semiotics sees the process of constituting signs and meaning as continually starting afresh, resulting in ever-changing inferences projected from the known onto the unknown. Hence, it is clear that the assumption of constant meaning, as proclaimed by behaviorist semiotics, runs counter to the dynamic concept of meaning advocated by critical semiotics.

For Morris and behaviorist semiotics, sign analysis was synonymous with the analysis of the syntactical, semantical and pragmatical dimensions. Morris frequently discussed the interrelations between the three semiotic dimensions, the extent to which, for the sake of analysis, abstractions can be made from one dimension to another, and the hierarchical relations among the three. A discussion of the unity of the semiotic dimensions (cf. Arbeitsgruppe Semiotic Aachen, 1978) has already appeared; here, only one of the serious problems implied by dimensionalization can be taken up. Although it was Morris who introduced the triad syntactic, semantic and pragmatic into the semiotic discussion, it is important to note that his friend Rudolf Carnap, with his growing insight into the inadequacies of his program of logical syntax, logical semantics and even the half-hearted inclusion of logical or formal pragmatics, provided considerable assistance. To put things somewhat bluntly, it would seem that the triadic division of semiotics is the additive sum of various aspects of the sign. In this context, it is particularly significant that the dominant function was not the pragmatic — despite repeated claims to the contrary — but the syntactic, in so far as the attention of behaviorist semiotics was not on interpretation relations, i.e. the dynamic interpretation of signs, but rather on the formal analysis of prefabricated sign vehicles. If the question is then raised as to how the three dimensions are to be integrated, the syntactical dimension proves to be the rationale, despite all claims that the pragmatical dimension is the most important. And this raises yet another question: with what justification can a syntactical analysis be carried out ahead of and cut off from pragmatical analysis? One possible consequence might be to dispense entirely with the triad of syntactical, semantical and pragmatical dimensions; if it is to be retained at all, the entire approach should be subjected to critical revision and turned around so that pragmatics serves as the base for semantics and syntax.

Closely related to the issue of the relations between the semiotic dimensions is the third question of how signs are to be identified and interpreted. Although in his formulation Morris uses the Peircean term "interpretant", he describes this concept as "the disposition in an interpreter to respond, because of a sign, by response-sequences of some behavior-family" (Morris, 1946:349). Interpretation, as seen by behaviorist semiotics, is thus a biophysiological process which can be described in scientific terms. But, since behaviorist semiotics ignores the concept of meaning and speaks in terms of causal relationships expressed by firm semantic ties between signs and signified objects, there can be, in fact, no problems of interpretation, just categorization.

It is evident that the behaviorist approach, in view of its stance on interpretation as well as in a number of other important regards, contains serious flaws. Correction of specific errors, however, as was demonstrated for the case of interpretation above, hardly results in an improved version of behaviorist semiotics. On the contrary, the entire approach is called into question: when the process of interpreting signs is regarded as an active constitutive achievement of an individual who creates his own signs and meanings, the borders of behaviorism have been crossed and left far behind.

Achim Eschbach
(Translated by Susan Vogel)

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SYMBOLISM AND REALITY

A Study in the Nature of Mind

by

Charles William Morris

PART 1

FOREWORD

> "Knowledge of a thing engenders love of it; the more exact the knowledge, the more fervent the love."
>
> Leonardo Da Vinci

1) The stream of contemporary reflective thought appears to have taken one dominant direction — namely, that of assuming a critical attitude to thought itself, of philosophizing about philosophy, and of subjecting the most fundamental concepts to a merciless dissection. If one has an ear for subtle music, there is to be heard behind the philosophical display the ever repeated note of an impatience with thought and words, as though these somehow ensnared one and obstructed participation in the fascinating drama which is felt to lie on beyond. "I'm bored, brother, with human words — all our words. Bored. I've heard each one of them a thousand times surely" sighs a Gorki character in 'The Lower Depths', and in the 'higher depths' of James and Bergson the lament is repeated: James 'abandoning' logic to plunge into the 'stream of life' whose 'deeper features of reality are found only in perceptual experience'; Bergson wishing to 'reabsorb intellect in intuition' for intuition leads 'to the very inwardness of life' while intellect 'goes all around life' without ever penetrating into life. Better to be afloat in the sea of chaotic purposelessness — so runs many a modern tale — than to be enmeshed in, or to see the world enmeshed in, a logical net.

2) The resulting irrationalism actually depreciates the intellect in some cases, but in general the modern effort has been to put intellect back into its larger non-logical setting without neglecting its importance within this setting. The revolt has been both against the identification and the opposition of mind and reality; the constructive aim has been to unearth the essential

nature of mind and to define its place *within* reality. This search has characterized at least one dominant tendency of recent thought and has called forth a widespread critical attitude toward the fundamental concepts of the intellectual realm — including the concept of 'intellectual realm' itself. The general attitude can be expressed in some such way as this: if mind functions within a larger realm what are the characteristics of mental and non-mental reality and the nature of their functional relationship? Thus the problem of mind inevitably involves the problem of reality. Similarly the problem of mind is inseparable from the problem of meaning, — in fact the search is for the meaning of the term mind. Thus a treatment of meaning is fundamental. Once a method for uncovering the meaning of any concept has been found, the specific application of the method to the concepts of thought and mind offers no new difficulties. The central theme of this essay will lie precisely in the application of a theory of meaning to the study of the nature of mind and its relation to reality, — undoubtely the central philosophical problem.

3) Such an inquiry is in fact well under way and has already been productive of significant results.

The behavioristic movement in psychology is a prominent revolt against the dominance of the concept of consciousness as meaning some psychical entity or process revealed by a unique method of observation, or which, along with other drives or entities or urges is invoked to explain the observable process of active organisms in a world itself observable. On the positive side, this psychology has aimed to give a concrete meaning to intelligence and thought in terms of the interaction of the animal and its world.

The physical theory of relativity is likewise the result of a critical analysis of concepts whose meaning had been carelessly taken for granted, — concepts such as space, time, motion, force of gravity, ether, simultaneity, and length. Force, energy, matter, and electron demand the same scrutiny: are they merely concepts? or also entities in the observable world? or behind the observable world? or do these concepts perhaps have other relations with the observable world, such as functional ones?

A similar state of confusion exists in all the 'kingdoms of mind': value in ethical and philosophical discussions; beauty in esthetical theory; the group-mind, self, the individual, society, and civilization in social studies; disease in medical practice; God, soul, and spirit in religious controversies; progress, evolution, universe, reality, consciousness, mind, thought, meaning, and knowledge in philosophical arguments, — all these concepts have felt and will continue to feel the probing, burrowing, knife-edge of analytical thought.

Attempts to satisfy the need for a fundamental consideration of the common features involved in these diverse studies have not been lacking.

There have been, for instance, noteworthy attempts to find in the study of language the key to the nature of thought and mind, and the related problem of meaning, — a study arising in part from the sound conviction that many of the intellectual problems are in reality merely language difficulties.

Part of the great interest in the mathematical logics is no doubt due to similar beliefs that a logic composed of unambiguous symbols would obviate the verbal difficulties caused by a difference of meaning in writers who are apparently using the same expressions.

Likewise, special fields of philosophy interested in clearing up these troublesome waters have 'emerged'. Not to mention instrumentalism at this point, there have arisen numerous philosophies of science particularly concerned with the place of concepts in scientific procedure, and critical philosophies occupied with the analysis of philosophical concepts.

4) The simplification and clarification resulting from these various studies and approaches has already been tremendous, and indicated the profundity of the intellectual revolution that is taking place.

There is still need, however, for a generalized treatment of the fundamental problem involved — the relation of mind and reality and the nature of each — in the light of the material presented by the partial studies made in psychology, biology, logic, and physics, and for a placing of the problem of mind and reality in a historical and philosophical perspective. A contribution to this synthetic generalized study — preeminently a philosophical task — will be undertaken in the present essay. The importance of the problem — which must of course be separated from any one specific attempt at solution — lies in the fact that a solution would penetrate to the very core of the 'life of reason', and provide the basis for a significant interpretation of science, art, religion, ethics, and philosophy, — in short, for the understanding of the place of thought and mind in civilization and in reality at large.

5) In the general study of the relation of mind to reality, the concepts of thought, mind, consciousness, meaning, knowledge, and reality are the most fundamental applicants for analysis. But as the path to the final goal is circuitous, and as the introduction of some new terminology carries the traveler into strange lands, it will perhaps be helpful to indicate the road to be traveled and the goal to be reached.

The essay will aim to show that thought and mind are not entities, nor even processes involving a psychical substance distinguishable from the rest of reality, but are explicable as the functioning of parts of the experience of an organism as symbols to that organism of other parts of experience. Being then the symbolic portion *of* experience, the psychical or mental can neither be sharply opposed to the rest of experience, nor identified with the whole of experience. And since experience will be shown to be a portion of reality, it follows that mind and reality can never be utterly separated nor indiscriminately identified.

The development of the notion of the symbol will involve the treatment of mind, thought, consciousness, and meaning; the study of the function of symbols in behavior will illumine the concept of knowledge, and the meaning of truth and error. As evidence of the analytical power of symbolism, it will be valuable to turn briefly to several fields of study and to view them from this new perspective, — hence the general consideration of psychology, biology, logic, the philosophy of science, and the problem of value. The application of symbolism to a theory of reality will also be attempted, with particular emphasis on the relation of experience and reality.

In conclusion it will be profitable to look briefly at the historical situation, both for the light which symbolism throws on the historic problems of philosophy, as well as for the light which history can shed as to the general place of philosophy in civilization, and, specifically, in the civilization so needful of philosophic vision, which is emerging — as one is dying — before our very eyes.

6) To the wary reader, learned in rolling words leisurely on the tongue, much of this presentation will have a familiar taste. The theory of symbolism is heavily indebted to Dewey's instrumentalism, and the theory of reality to James' exposition of a radical empiricism. In addition the analysis has been greatly enriched by contacts with the thought of Mr. G. H. Mead in regard to consciousness, relativity, and reality; with Mr. A. W. Moore and Mr. C. I. Lewis in logical theory; and with Mr. Ferdinand Schevill and the writings of Nietzsche in the interpretation of civilization. The material of contemporary psychology — particularly of Hunter, Watson, and Allport — has been heavily drawn upon throughout the essay. Although these various influences are the 'conditions' for the emergence of this essay, they do not — it is hoped — exhaust the theory presented. The endeavor has been to produce a systematic and synthetic treatment of the problem of mind and reality and not merely to evolve an unstable mixture. As with all theories, acceptance or rejection depends upon the adequacy of the presented theory to handle the facts of experience, and not upon its agreement or disagreement with past theories.

PART 2

THE THESIS OF SYMBOLISM

> "The chief thing I do or pretend to do is only to remove the mist or veil of words."
>
> Berkeley

> "If you wish to find out what subjective, objective, physical, mental, cosmic, psychic, cause, substance, purpose, activity, evil, being, quality — any philosophic term, in short — means, go to experience and see what the thing is experienced *as*. . . Such a method . . supplies a way of telling what all these terms mean."
>
> Dewey

> ". . . if you cannot point out any such impression, you may be certain you are mistaken, when you imagine you have any such idea."
>
> Hume

7) The analysis and description of experience which is central to the problem of meaning, will be the primary concern of this part of the essay. In the course of this study the nature of the symbol will be brought out and its relation to the meaning of meaning. The basis will then have been reached for

a treatment of thought, mind, and consciousness in terms of the concept of the symbol. It will obviate some confusion if this entire part and the following part be considered as complementary accounts of the theory of symbolism. Part 2 gives a formal and *descriptive* account of the theory; part 3 gives the *genetic* side of the theory with particular reference to the functioning of symbols in behavior. One presentation may clear up some of the difficulties encountered in the other. In these first discussions the final status of experience in relation to 'reality' is not under consideration. This problem of the relation of experience and reality will be explicitly considered in part 5.

8) That it is wise to begin at the beginning few would question, — the difficulty in philosophical matters is in finding the beginning. This difficulty becomes acute in a discussion of symbolism, because a discussion involves the use of symbols, and yet the very aim of the discussion is to get beyond symbols, that is, to place symbols in a non-symbolic context. Hence, to avoid this difficulty, the printed words must be regarded as devices for directing the attention of the reader to the other aspects of experience. Words themselves have no convincing power: proof lies in the verification of a writer's experience by that of the reader's, — the words being the bridge between the two sets of experience. From the very beginning it is necessary to form the habit of looking beyond the printed page to — whatever is beyond.

It is advisable to introduce here a set of terms which will be used extensively in the following pages: given and givenness. To define these symbols in terms of other symbols, one might say that the given is present experience, *a* given is some portion of this present experience, givenness refers to the general fact that there is experience. There is no givenness without something given: grammatical considerations and the need for a very general term make the use of the two terms advisable, although for all intents and purposes they are synonymous. The term 'experience' is the center of much controversy however, and definition by symbols is an endless process, so it will be advisable to define givenness by pointing. In conversation where the hearer and the talker are together, the talker can often point with his hands in order to give the reference or meaning of the terms used. This is not directly possible by writing because the only connection between the writer and the reader is through the use of symbols. Under these limitations, let me try to point by words to experiences which are not words, in order to give a clearer meaning to the term 'givenness', — for without this made clear the rest of the account would be meaningless.

This paper and these black marks are given if you are reading or looking at this page. (The nature of the 'you' will concern us later, — here the term is used uncritically as a symbol for the reader). The first and last pages are not given unless they are turned to and looked at. If the pages are turned perhaps the thing symbolized by the phrase 'your arm' becomes given. If someone is walking in an adjoining room which cannot be seen from your present position, then 'sound' is given, but the other room and the person are not given. If you call out the noise of your voice is given, but if you are deaf, not noise but that which is symbolized by 'sensations from the throat' is given. If you go into the other room, with the light on and your eyes open and working, the room and the person become given. If you caress the person or shake hands with the person, there is another kind of givenness called 'tactual'. When in the other room, *this* page is no longer given. You may think about this page, and in this case there is a type of given you may symbolize by thinking, or imagining, or sub-vocal talking. Had the person in the other room turned out to be an intruder, there would have probably been 'emotions' given. You glance at the window and 'desire' to look out of it. You walk to the window and the walking is given. When you look out the window something else is given. You may not know whether what is given is, say, a star or a light, but the fact of givenness is unquestionable. You may think about this doubtful object and then the thinking and the given thought about are given simultaneously. The process of interpretation may continue after you have turned away from the window even though the doubtful object is no longer given. In this case there may be an 'image' of the absent object given. A complex set of given labeled 'hunger' may appear, and then after a process of eating, be no longer present. You go to bed and with the lights out the realm of givenness becomes less varied. There are probably sensations from the pressure of the bed, and 'lights' which seem to hover about the head and eyes, and a little later, dreams. These too may pass away and there is temporarily no givenness, — although of course you could be given to someone else who entered the room. Perhaps givenness never begins again for you. Then a death has occurred, — the ceasing of givenness at some organic center.

> Givenness is identical — it is believed — with Dewey's use of experience and James' use of radical empiricism as descriptive of the content with which philosophy is concerned. Givenness seems to be the real reference of 'idea' as used by Locke and Berkeley, and 'perception' as used by Hume, for in all these cases the terms refer to what is actually present or 'there', to what empiricism has called 'experience'. The idealist also starts from this immediately present although he is liable to call this 'mind' or 'consciousness'. The nature of givenness is a later concern; the fact of givenness is

essential here. Bosanquet says that "Experience may be said to begin with the certainty that 'there is somewhat' . ." and it is this somewhat that is 'there' which the term given refers to. It is with givenness that one who desires to break the spell of words must start. There is a growing suspicion that profundity is not identical with verbal clumsiness.

In psychological terminology, givenness could be indicated by pointing out that it includes sensation, perception and conception, — except for the diverse uses of these terms. Perception seems to be generally used for sensation plus interpretation such as in the seeing of a 'star'. Occasionally perception is used for the datum, and in this case a sensation is a discrimination of a perception. Thus even the appearance of a 'somewhat' would be a perception but not an interpreted perception. James uses perception to include conception, and hence as identical with givenness. This was also Hume's use, and will be the use of perception in this paper.

The moving picture offers a splendid example of givenness, and of the paucity of conventional categories. The being in a certain place at a certain time, the possessing of normal eyes, the existence of machinery and films, and so forth, are the conditions for the given we call the 'moving pictures'. The conditions must not be confused with the given. Thus we don't see with our eye, but because of the eye, — that is, the eye is *one* of the conditions of visual givenness. As one looks at the pictures, there is usually some other given. Thus there may be thinking about the pictures, there may be emotions, musical sounds, and the people in the rows in front may be vaguely given. The reality status of the moving pictures discloses an interesting situation. Most thinkers believe that things are either material or mental. To which category belongs the picture drama as it unfolds? Clearly it is not physical in the same sense that the screen is physical. Nor is it mental in the sense of being in *a* mind for thousands of people are seeing it and looking toward one place to see it. Such a situation reveals the inadequacy of the conventional analyses of experience.

Radio reception and the voice over the telephone are other good examples of givenness. In neither case is the talking person given to the hearer, although the sound of the talker's voice is given. There may in addition be images of the person talking, and thinking about the talker, experiences of the instrument, and so forth given to the hearer.

9) The difficulty in conveying the meaning of the term givenness arises from the abstractness or generality of the term, — it symbolizes the total present experience, the totality of all that is immediately 'there'. Two things of importance should be noted: that actual presence or thereness in experience is requisite to givenness, and that the organism and the senses are themselves often — but not always — given. Thus if one is thinking about an absent object, the thinking and some substitutes for the thing are given, but the object as such is not given. The second point is directed against the prevalent

view which puts the senses outside of experience and regards them as inlets to the 'mind', a view which is often implied in the phrase 'sense experience'. In opposition to this view it is necessary to insist that the senses and the organism may be given in precisely the same way that other things are given.

A third point of fundamental importance can now be made: the given which is thought about and what is thought about the given can in all cases be sharply separated. Or to state this even more generally in order to include thinking about objects not now given, the thought and the thought-about must never be confused or identified. In most cases this separation is within the given. Even when the thought is about something not now given — as the book in the next room, or the mountains of the West — there is always some representative or symbol of the absent object which is given, and which is separable from the process of thinking. Further, one can only think about objects which have at some time been given, or about combinations of such objects. Since the memory of past given is itself a fact of present givenness it may even be stated that in all cases of thought, there is a separation *within the given* of the thought and the thought-about. This statement is a descriptive one, and one must turn to givenness in order to judge of its adequacy or inadequacy. At least the question now arises as to the nature of these two types of given and as to their precise relation.

> It is to be noted that the body and the senses are not always given, but that they may be given. Suppose one is looking at a given called 'tree'. The body may not be given at all. Or part of the body may be given (such as the limbs) while part is not given (such as the back). Nor is the eye given, although sensations from the eye, or images of the eye may be given. One can, however, feel the eye with the fingers, or see it in a looking glass. The organism and the senses when given must be placed on the same status as other given, and not be made inlets to the mind. The unique place of the organism, although highly important, is more conveniently dealt with in the discussion of reality. The word 'given' however naturally and rightly raises the question as what things are given to. By way of anticipation it may be well to state that organisms or portions of organisms are the centers or foci of givenness, and that in this sense the givenness is always *to* an organism. The organism *may or may not be given*, but when given it is on the same reality status as other given. The organism, like a thing, is never given all at once, but can be assigned no superior metaphysical status.
>
> As Dewey has said, "If we take a case of perception, so far as a self or organism is concerned in it at all, the self is, so to say, inside of it rather than outside of it. It would be more correct to say that a self is contained in a perception than that a perception is presented to a self." *Essays in Experimental Logic*, page 296.

> The suggested analysis must be sharply opposed to the still prevalent 'ivory tower' view which puts the 'mind' up somewhere in the brain, and then tries to establish its connection with the outside world by means of the senses and the nervous system. Such a view creates false philosophical problems, and an emaciated science. It is because of these considerations that the problem of mind is fundamental to the reconstruction of philosophy and theoretical science. The importance of the problem demands an analysis which goes to the bottom of things. The too common method of handing mind over to a miraculously endowed nervous system, avoids rather than solves the problem

10) Before passing on to the nature of the symbol and its relation to thought and mind, it is necessary to call attention to certain other features of givenness. Thus the distinction within givenness between the tactual and the non-tactual given is of great importance. A tactual given is one the organism can approach and touch or one it is touching. Thus tactual covers both actual contact and touchable given. Suppose a given appears before the weary traveler which he calls 'lake'. It may be either a tactual or a non-tactual given and action is perhaps necessary to decide. If the traveler can approach the given and get the actual tactual experience which water gives, then the given is a tactual one and a real lake; if not, the given is non-tactual and a mirage. A non-tactual given is thus not a given that is not now yielding pressure experiences, but one that is by nature incapable of yielding such experiences and hence is actually non-touchable. Afterimages, memory images, emotions, hallucinations, are all non-tactual given.

The distinction between tactual and non-tactual given seems to be the factual basis of the older distinction between primary and secondary qualities. Sounds, odors, and colors are strictly speaking non-tactual, even though the attempt to approach them often leads to tactual givenness. Color seems to inhere at the spot where the later tactual givenness appears to a much higher degree than do odors and sounds. Nevertheless color as such cannot be touched and is non-tactual. The shapes which appear in the visual field are often good examples of tactual given. The same outline that is revealed to the eye can be followed by the hand. Thus the given labeled rocks, people, buildings, trees, and the like, are fairly constant examples of tactual given. Of course even here sometimes things which are thought to be trees turn out to be hallucinations and thus non-tactual. Given do not come labeled tactual or non-tactual; such a distinction involves action and hence has a history. However, our concern now is with the description of a complex situation, and not with the fact that it is a stage in a process.

Such words or phrases as external world, material things, matter, physical world, spatial world, objective world, refer to the tactual given; such expressions as mental, psychical, subjective, inner world, generally refer to the non-tactual given. It is important to realize that this distinction is within givenness and that both types of given are equally present and equally real. The distinction between the tactual and non-tactual given will be useful in the more fundamental distinction between thought and what is thought about, and, later, in the treatment of reality.

> There are of course other factors which enter into the distinction discussed above, such as the fact that the apparent size of the tactual given changes as they are approached, and the fact that the tactual given are on the whole steadier and more vivid than the non-tactual. Touch remains, however, the only final and conclusive test. The use of touch in classifying certain given as 'unreal' or 'real', hallucinations or objects, is quite generally recognized. As given they are all equally real, but some sort of discrimination is necessary for the guidance of conduct, and the maintenance of sanity.
>
> Hume's 'impressions and ideas' and Spencer's 'vivid and faint manifestations' are incomplete distinctions, but are along the line of the distinction between tactual and non-tactual given. The ideas and the faint manifestations represent only a portion of the non-tactual given, — apparently the portion called visual imagery. A recognition of contact as the two realms of perception, rather than vividness, might have helped Hume to avoid the subjectivism which he wishes so earnestly to avoid, but toward which his assumptions so irresistibly impelled him. Berkeley's insight into the importance of the tactual was sharper but like Hume he was ensnared by the traditional concept of mind.
>
> An excellent simple example of the distinction between tactual and non-tactual given can be gained by looking at some object with both eyes open while one eye is slightly pushed to one side. This produces a situation in which there are two highly similar given, one of which is tactual and the other non-tactual, both of which are simultaneously present. The outline of one can be traced with the finger, while the other offers no resistance to the penetration by the finger of its 'disembodied' form.

11) The stream of givenness is in constant change. Some given bob up for a moment and then are swallowed up in the more permanent features of the stream. This in general is the case with the non-tactual given, for although they often recur in a periodic manner, their impermanence contrasts strikingly with the relative stability of the tactual given. The permanence of these latter, however, is only relative, for they undergo slight but perceptible changes. Change is fundamental, but the change goes on at different tempos

and involves repetitions and relations and sequences. Givenness is an ever-floating dance and not merely a chaotic orgy of momentary and isolated steps and measures.

Among these slowly changing tactual given, there is a special group whose uniqueness demands special considerations: those organisms, which in virtue of the capacity for movement, reproduction of kind, learning ability, and what not, we call 'living'. These organisms are given in constant interaction with other given. Thus the organism labeled 'mine' is in relation to both tactual and non-tactual given although other organisms are given only in relation to tactual given. That is, there seem to be certain given which appear only to the organism and so when one studies the interaction of other organisms to the world and to each other, the account is simpler than when one studies the reaction of the organism symbolized by 'his', for in this study non-tactual given — such as images and emotions — enter into the account. This stating of the case raises many problems as to the nature of the self, and of images which cannot detain us now. Here we will follow the fuller account, leaving the verification to the experience of each reader. This will make necessary many uses of the first person which, though not welcomed, are at least unavoidable on this approach.

The central point lies in the fact that the interaction of the organism and the other given may be, and frequently is, given. The statement 'I see a tree' states the fact that a given symbolized by 'tree' is given along with the organism symbolized by 'I', together with the recognition, as a result of past experience, that an eye is a necessary condition for visual givenness. The organism which may or may not be given is thus a focus or center of givenness, and particularly of the non-tactual given which cluster around it.

At some later time there may appear a given which calls out the same verbal response of 'tree'. It may even be mistaken for a tree, but as it cannot be approached or touched, it is finally reacted to as a non-tactual given. The presence of this image or hallucination may serve however as the condition for a decided change in the activities of the organism and under certain circumstances may even result in death. The organism is in intimate interaction with both the tactual and non-tactual and any doctrine of causation is condemned which cannot take account of such facts.

> The analyses of perception furnish a crucial point of divergence among the technical philosophies and correspond strikingly with the different treatments of reality. Roughly speaking, there are three possible analyses:
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> 1) a three or more term analysis, such as into the body, the mental

state of consciousness, and the object of perception.

2) a two term analysis into the perceiver and the perceived, the two differing in kind.

3) a one term analysis in which is abolished any difference in kind between the perceiver and the perceived.

Any of the above analyses can be regarded as final or as not final, that is, as completely adequate, or as transcended from some higher or more inclusive point of view. Thus a noumenal object may be placed behind or beyond the 'tree' disclosed in perception.

The analysis suggested here is of the 'one term, final' type. On this view the perceiver is or may be among the perceived.

12) The changes in and of the organism due to internal and surrounding factors — regardless of whether these are given or not to the organism — have come to be called the stimulus-response situation. The action of the organism is the response, while the factor, or factors which are the condition for the action, constitute the stimulus. It is also observable that under certain circumstances one stimulus may be substituted for another, and thus may call out (act as the condition for the arousal of) the response originally called out by the first stimulus. This is the principle of the conditioned response or substitute stimulus, and is the basis of the learning process. Although behavior on this level may become highly complex, there is no reason for calling such behavior 'mental'. The vast mass of behavior — even human behavior — is of this sort, and present day practical psychology recognizes no other level of behavior. Thus ideas are often identified with a set of substitute stimuli. It will be part of the task of this paper to call attention to a type of behavior whose existence is seldom recognized and the implications of which are hardly mentioned.

At this point it is necessary to formally introduce a term which has been previously used in an uncritical fashion: — the term 'symbol'. A symbol is a *representative given*, that is, a substitute stimulus which can be given simultaneously with the original stimulus for which it is a substitute, the test of substitution being the ability to call out the response of the organism which the original stimulus called out, as the result of a conditioning process. The substitute stimulus and the original stimulus are not always given together (except in the conditioning process) or there would be no real substitution. Hence in such cases the substitute stimulus to be a symbol must arouse at some organic center the original stimulus in a non-tactual form, or to state it in more conventional form, must arouse the memory image of the original stimulus. The whole point of this paper turns on the distinction between the substitute stimulus and the symbol. All symbols are substitute stimuli, but not all substitute stimuli are symbols. Thus if 'tree' — spoken or written — is a symbol of the tactual object called tree, then it is because the word is not merely a condition for the action which the tactual object called out, but because it is also the condition for the givenness of some memory image of the tree, that is, for the reinstatement of the original stimulus in a non-tactual form. The word tree in an unknown language is not a symbol to the hearer. The ringing of church bells was in a historic case a substitute stimulus which called out a violent and emotional reaction in the hearer without being a symbol to the hearer, that is, without recalling the collapse at the mother's death which occurred while the church bells were ringing. This substitute stimulus would become a symbol if it were connected with the original stimulus and not merely with the original response. This in fact is what the psychopathologist aims to accomplish in such a case.

Thus a symbol is a given which represents and stands for some other stimulus which was once given simultaneously. Though it can, like the substitute stimulus, take the place of the original stimulus in calling out behavior, it calls up, in addition, the original stimulus in a non-tactual form. The symbol thus involves memory of the original stimulus in a way that the substitute stimulus does not. *Any* given may take on this symbolic function. Behavior may become symbolic, but symbols are by no means limited to actual behavior. Images, emotions — (neither of which are behavior, although both have behavior as a condition of their existence), stones, other organisms, and so on through the entire range of givenness, may all become symbols. Though there are no symbols without organisms, symbols do not have to come from the organism. Behavior enters as a condition of memory and of meaning, and hence of the symbol, but behavior is by no means the main source of symbols.

13) The discussion of the symbol and of meaning are inseparable. As used here only symbols can have meaning, though anything may have significance. Thus it is proposed to limit 'meaning' to signification and to discontinue the use which extends the term to significance. A hopeless confusion of logical and value problems arises from the use of meaning in these two senses. In the sense of signification, meaning refers to the original stimulus which is evoked by the substitute stimulus functioning as a symbol. The meaning of any symbol is the object or situation for which it stands. Due to the capacity in certain organisms for memory of the stimulus, the givenness of the symbol or representative event acts as the condition for the givenness of the original stimulus, which it means, in a non-tactual form. Wherever there are symbols,

there are meanings; wherever there are meanings, there are symbols. A symbol may therefore be defined as a meaningful substitute stimulus. Theoretically, any given may become a symbol to an organism of other given provided that the two can appear simultaneously, and that the organism makes a response to one of the given and is capable of the memory of this given: this — to parody Einstein — might be called the general theory of symbolism. The 'special theory' would in that case be concerned with the relation of symbols to language, and with the dominance of words as symbols in man's behavior. These problems are more conveniently treated in a later section and only this need be said here: language is one great subject within symbolism, for language results when organisms have common symbols with approximately the same meanings. Common meaning requires similar experiences, hence language is always social. When the symbol is representative of similar given to different organisms, then one organism can 'communicate' — call up the memory of the thing meant in the experience of the other organism — by making the symbol given to the other organism. Symbols are not necessarily social, but language symbols must be social by their nature and origin.

The term 'image' was used in the elucidation of the term 'symbol', though not in the definition, and this apparently introduced a vicious circle, for the image is usually regarded as a symbol of something. Hence it appears that the notion of the symbol has been used to define the symbol. The difficulty arises from the fact that we have no satisfactory words with which to refer to the non-tactual given, and also because of the case with which this type of given becomes symbolic. There are often non-tactual given called visual which are clearly not symbols. The 'lights' which appear in the vicinity of the eyes are an example of this type of given. One can close the eyes at any time and 'see' these forms and colors. Now suppose that among these forms there appears one which arouses a process of thought and which perhaps stimulates the emotions, and incipiently releases many responses. Now this given — let us say it is a face — would perhaps be called a visual image, even though it may not be a symbol. The person might not know whom it is an image of. In spite of the effect upon him, the image would have no meaning for him. Thus there may be imagery without memory imagery, and visual givenness without it being symbolical. Suppose the man in question recalled by other imagery the original person and stimulus. Then the present image would become a symbol in virtue of the connection that has been established with the original stimulus. It is to be observed that the imagery in question was discussed in terms of 'other imagery'. This circle is not broken until one finally gets the representative event given simultaneously with what it means. No matter how complex may be the intervening succession of imagery, the final determiner of meaning is the togetherness of the symbol and the thing meant in experience.

For our present purposes it is sufficient to consider an image as the reinstatement of a past stimulus in a non-tactual form, the condition for whose emergence is the rearousal of those portions of the organism which were aroused by the original stimulus. The image is a present given and not something which is stored away and brought forth on occasion. The similarity of the image to the original stimulus makes it a substitute stimulus and hence causes it to call out the response made to the original stimulus. It is in the response that the explanation of the feeling of familiarity and pastness is to be found, in part at least. The image easily becomes a symbol, an image of, by calling up other imagery or the original stimulus, and by ultimately leading the organism to the original stimulus so that both can be given together. The image has then become a symbol or meaningful substitute stimulus. The distinction between the symbol and the substitute stimulus offers no difficulty except in the complicated cases where the symbol is also an image.

The confusion of signification and significance in discussions of meaning is no doubt responsible for the widespread view that meaning consists in our responses to things or in our attitudes toward things. The response gives the significance, but the signification depends on the memory of the original stimulus. Contemporary thought has emphasized the response and neglected the stimulus and its reappearance in a non-tactual form. The account of the symbol has aimed to do justice to both of these aspects of the total situation. Of course an object can become a symbol of our reactions to it, but then we are not interested in the object but in the reactions to which it points. Likewise a whole situation — objects as well as the reactions and emotions — may be symbolized, as was done in the term 'givenness'. Finally, symbols may themselves be symbolized, singly or in combinations.

The distinction between the symbol and the substitute stimulus is rarely, if ever, made. This perhaps accounts for the unsatisfactory treatment of thought and mind in psychology and philosophy. Watson ('Behavior and the Concept of Mental Disease', *Journal of Philosophy, Psychology, and Scientific Method*, Volume 13, 1916, page 592) states that "words receive their standing as functional units by virtue of the fact that they become *substitutable for the stimulus which originally initiated an act*". Hence he looks upon speech as a "vast system of *conditioned reflexes*." (page 591). It seems clear that substitute stimuli are not sufficient to account for mental or ideational phenomena, for then all animals think and have a mind. With sufficient ingenuity one could construct a mechanical appliance — such as the mechanical dog which comes out of its kennel summoned by a clap of the hands — which would respond at first to one stimulus and then by a changing resistance finally responds to another stimulus which had been operating along with the first. Corresponding sounds could be called out by a new record which became operative when the substitution of stimulus was effected. And so: we would have a thinking mechanical dog. On the basis of symbolism, however, the stimuli would have to be 'given' and the animal have the capacity for memory of the original stimulus before one could speak of thought or of behavior on the symbolic level. Psychology has little to offer at the present time in the consideration of thought and mind, although it has laid the basis for a study of the symbolic level in the concept of the substitute stimulus. A good account of this can be found in Woodworth's *Psychology, A Study of Mental Life*, chapter 16.

14) The ground has now been laid for the presentation of the most important distinctions within givenness: — the distinction between symbolic and non-symbolic given. The rest of the essay will largely consist of variations on this central theme. A symbol we have seen is a given or complex of given which is functioning as representative of other given. Considered merely as a given, it is not different from other given; its uniqueness lies in its function. A given may at one moment be a symbol and at the next moment no longer be a symbol, because the difference depends entirely on the manner in which it is functioning. The dualism involved is not a dualism of kind but of function. The boundary between the symbolic and the non-symbolic portions of givenness is an ever shifting one. Not only may specific given be found now in one portion and now in the other, but the proportion between the two portions differs greatly from time to time. It is doubtful if experience on the human level ever is entirely symbolic or non-symbolic, but it certainly closely appoaches these two extremes. There are times when givenness is made up largely of symbols, and there are times when the function of representation is practically absent. Even symbols used constantly tend to slip back into the rank of mere substitute stimuli, and conversely, mere substitute stimuli tend often to masquerade as symbols. For such reasons an inventory as to meaning is periodically needed.

Dewey has expressed practically the same position in his instrumental logic. Note the following passage in the *Essays*, page 226: "A symbol, I take it, is always itself, existentially, a particular object. A word, an algebraic sign, is just as much a concrete existence as is a horse, a fire-engine, or a fly-speck. But its value resides in its representative character: in its suggestive and directive force for operations that when performed lead us to non-symbolic objects, which without symbolic operations would not be apprehended, or at least would not be so easily apprehended."

Since the last part of this quotation has already carried us ahead of our story, it may not be out of place to recall Mr. A. W. Moore's words — *Creative Intelligence*, page 72 — that the distinction between immediate and reflective experience, practically identical with the distinction between non-symbolic and symbolic givenness, is "possibly the most momentous discovery in history".

15) The application of this distinction to the problems of thought and mind involves no great difficulty. It is advisable, however, to recall two earlier distinctions: that between tactual and non-tactual given, and that between thought and the thought-about. As to the first, it can be seen that those given which accompany the organism — such as emotions, images, responses, sensations, and sounds from the vocal organs — are particularly suitable for symbols as they are always available in a way which tactual given are not. Thus the majority of symbols are drawn from this non-tactual given, — a fact which is probably the basis for the unfortunate identification of the mental and the non-tactual given.

In regard to the distinction between thought and the thought-about, the point that is now to be stressed is the identification of thought with the symbolic type of functioning. Thought and idea — as well as consciousness — are often used for non-tactual givenness, for the presence of images and emotions, and the like, in experience. Hume, for instance, seems to have practically identified 'idea' and 'visual image'. It is advisable however to state thought and idea in terms of the symbol.

The terms can be used in at least two ways, as expressed in the phrases 'thought of' or 'idea of' as contrasted to the phrases 'thought about' or 'idea about'. This distinction is really the difference between isolated symbols and sequences of symbols. Thus to have the idea of a tree is to have the memory of a tree aroused by some present, and given, substitute stimulus. *A* thought is *a* symbol. This is the simplest phenomenon that can be legitimately called mental. 'Thought about' or 'idea about' are more complex and involve sequences of symbols referred to the thought-about, which is always either some present given or represented by some present given. To think about something is to refer symbol sequences to that something or to a substitute for it. Thinking about is using symbols about.

It is also possible to think about thinking which simply means to symbolize symbolizing. The distinction between thinking and talking goes back to some such basis, for while talking one can think about his own talking. Any given can be thought about, including symbols, which are simply representative given. Since many symbols are not language symbols, which have become largely of the verbal type, one is liable to feel difficulty in conveying his thoughts. There thus arises the belief that thought and speech are essentially different and that thought *uses* words as a means of expression. Thus the recent attempt to identify thinking and sub-vocal talking often met with sharp opposition. From the standpoint of symbolism this opposition is valid only in so far as symbols are recognized which are not necessarily verbal symbols. Otherwise there *is* no essential difference between thinking and talking. Talking is one form of thinking, — that of thinking out loud. The degree to which thinking is implicit talking depends on the degree to which words are the dominant type of symbols. Individuals differ greatly in this respect. The contention is not that thought is impossible without words, but that thought is impossible without symbols.

Thought is not something different from symbols and which *uses* them; thought *is* identical with the sequences of symbols. The question which is often raised at this point as to '*who* thinks?' reveals the lingering assumption that there is some psychical being or entity which thinks or uses symbols. The asker of such a question is not satisfied with the reply that 'the passing thought is the thinker' or that 'the organism thinks', and is likely to remark that 'the mind thinks'. And thus we come to the problem of mind.

> Throughout psychological and philosophical literature there constantly occurs the statement that words are signs of ideas. In Locke's use of the term this was not so serious, for idea stood for givenness, or rather for separate elements of givenness. When idea is given an entirely subjective status, then such a statement becomes one-sided if not actually false. The sharp separation of ideas and words reflects the ivory tower view of mind which has dominated thought for so many centuries. Mind then becomes a 'thinking thing' essentially different from the 'material' world, which uses words to express its thoughts. The shades of Descartes, Spinoza, and all the goodly company of the modern period rise before us . . . The truth of this view lies in the fact that there are symbols other than word symbols, but this factual basis is completely obscured by the grandiose superstructures which were raised.
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> As against this type of separation the behavioristic attempt to identify language and thought by making thought sub-vocal language habits, is a decidedly welcome influence. The rejection of images and other non-tactual given prevented the distinction between the symbol and the substitute stimulus from being made. Thus the place of words has been overdone. The weakness of the behavioristic account lies in omission and over-simplification. Watson has had to admit 'bodily language habits', and that all thinking is not connected with the vocal cords. But in doing so he has lost all criteria for thought. Thus thought is made a "constituent part of every adjustment process", and "we are studying thought" . . . "when we study implicit bodily processes". *Psychology From the Standpoint of a Behaviorist*, pages 325,6. See also chapter 9 of this volume, and chapter 10 of *Behavior, an Introduction to Comparative Psychology*.
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> The distinction between thought and the object of thought (the thought-about) must never be lost sight of. Thought may go on without any one constant object — as in reverie — but when thought does have an object as in the

reflective process, there is no excuse to confuse the symbols with that to which the symbols are directed.

The realists on the whole maintain this distinction as is evidenced by Dewey's distinction between immediate and reflective experience, Laird's separation of perception and judgments of perception, the neorealist analysis of perception into awareness and the object of awareness, and by Hobhouse's admission of apprehension prior to thought. Hume's separation of impressions from ideas, and Kant's separation of thought and existence would fall along this same path.

The idealists and rationalists tend to deny the distinction between thought and the object of thought, or to make it one of degree rather than function. Leibnitz regarded sense impressions as cases of confused thought. Descartes and Spinoza felt that in the case of God, thought and the existence of the thought-about could not be separated. MacTaggart to the contrary, Hegel appears to deny any separation of the idea and the object. Bosanquet in his account of the concrete universal insists that there is no bare given about which we think, but that the given is an element in a larger whole to which it points. Thus all the given take on meaning and become symbolical. Hence the symbolic realm engulfs the non-symbolic. "The quaint separation between what we think of and the means by which we think of it has no raison d'être." *Meeting of Extremes in Contemporary Philosophy*, page 143. Thus even "every *object* of thought is transcendent of immediate experience." The same, page 145. Italics not in original. Hence "*Direct* perception is a mere popular phrase without logical meaning" for "all perception is inferential..." *Logic*, Book II, Chapter 5. No matter how much 'synthesis' goes on on the non-symbolic level in the process of perception, this perception can still be distinguished from what is thought about it. Insistence upon the mediateness of the immediate seems to be mere verbalism, for there must be something to mediate. The fact that there are many objects in our present experience that are there as the result of past thinking processes does not make the objects mental or prevent us from distinguishing them from what we now think of them.

Bosanquet's analysis of the concrete universal is practically identical with the foregoing analysis of the symbol. It is the very nature of an idea or symbol to point beyond itself. Bosanquet errs in applying this to *all* given. The non-symbolic given are those at any moment which are *not* pointing to anything else. Failure to do justice to the non-symbolic portion of experience leads Bosanquet to read thought back into the animal world and to ultimately equate thought and reality.

16) The term 'mind' is a symbol; the problem is to find that to which it refers or points. Many thinkers who would not openly confess it seem to conceive of mind as an entity or as a container of some sort. One has but to glance at the history of the phrase 'in the mind' to realize the unfortunate prominence of this conception. Mind has been conceived of as something in which

other things of a 'mental' character could be. Not only colors and emotions, but even the tactual given have been put in mind. The mind is often placed in the brain, and the senses and the nervous system allow the mind and the world to meet. This ivory tower and entitive view of mind is on a par with all mythology. Since no such entity is ever given, it can have no place in a radical empiricism. Rather than putting experience or givenness in a mind, the meaning of 'mind' must be found in experience.

In terms of our past discussions, the mental is equivalent to the symbolical. Experience or givenness is mental in so far as — and only in so far as — given have taken on the representative function. Thus mind is the locus of symbols, and not something which ideas, or colors, or things, can be 'in' or even before which they can appear. We do however speak of *a* mind. Mind in this sense is the symbolic repertoire of some organism. Thus we say a man has a good mind even though he is not thinking at the time. Such a statement refers to the symbolical process of the individual shown at other times. *A* mind is thus a complex set of related symbols, and had a genesis in the life of the individual. It is nothing apart from some organism; a disembodied mind — like an unconscious mind — is a mythological conception.

> The neglect of the problem of mind is the striking weakness of philosophical history, and the cause of many of the traditional problems of philosophy. Thus if the mind is conceived as a container of ideas, the dominant problem of philosophy becomes the epistemological one. If this view of mind is rejected, the epistemological problem of getting to the world from the mind becomes meaningless, for mind is a part of the world functioning in a certain capacity. Even in contemporary thought there are many attempts to answer the problem as to what is 'in mind' without first raising the question as to whether mind is of such a nature that it can *have* anything in it. Then there are those who take everything out of mind but leave mind as a spectator or mere awareness of everything else. Whitehead duplicates the purusa of the Indian Samkhya system in this respect. An inquiry into mind would have avoided his sharp separation of mind and nature, and perhaps the notion that the latter is given 'through the senses'. Russell's reduction of mind to sensations and images is a step in the right direction, but is vitiated by his failure to make an adequate connection of mind with behavior, and by the metaphysical considerations which he introduces. The American neo-realists have steadily worked away from the entity view of mind to a view which considers mind as non-mental elements in a certain rôle, but the nature of this rôle is treated very inadequately. Sellars has persisted in making the brain the scapegoat by giving it the mental functions in his concept of the 'brain-mind'. The pragmatist has been most successful in attaining a functional view of mind which stands scientific scrutiny. Dewey has — in the often mentioned *Essays* — definitely rejected both the contemplative aware-

ness and an entitive mind. In the *Influence of Darwin, and Other Essays*, page 104, he maintains that "To be in the mind means to be in a situation in which the function of intending is directly concerned". His technical philosophy is largely the attempt to state the conditions and the manner under which reality, given at some organic center, takes on this function of pointing which he calls mental or ideational. The results of this paper are very similar to those of instrumentalism, though the aim has been to make the nature of the symbolic realm its connection with the non-symbolic, and the relation of both to reality, stand out more vividly.

The Meaning of Meaning by Ogden and Richards, has much in common with portions of this essay. The authors believe that "A new Science, the Science of Symbolism, is now ready to emerge. . ." (page 381), and they have rightly realized the fundamental place of the problem of meaning. The plan however is better than the performance. There is no adequate conception of the symbol, for it is apparently identified with the substitute stimulus (page 139). Thought and mind thus receive no adequate treatment, and are not even related to the symbol. Symbolism means to them the study of the influence of language *on* thought (page 382) and not the treatment of thought and mind in terms of symbols. Hence on page 19 it is suggested that thought can dispense with symbols. The old notion that words symbolize thoughts appears on page 198. The treatment of reality is far from satisfactory: colors are put in the eye, and the given is made "a modification of a sense organ" (page 178). The distinction between symbolic and emotive language cannot be maintained, for emotions can be symbolized in the same way that things can. The distinction that has been made between tactual and non-tactual givenness appears in their distinction between external and psychological contexts (page 44). The view of truth — page 160 — bears resemblance to the view to be given in part 4. The view that 'metaphysics' is due to the lack of "*the critical scrutiny of symbolic procedure*" — page 354 — is a happy and correct 'hit'. The book is a suggestive prelude to a deeper consideration of the problems involved.

17) It has been remarked that the modern realisms have taken the contents out of mind and returned them to the world without disturbing the notion of mind as awareness or consciousness of those contents. The analysis here advocated rejects even such a conception of mind and for this reason a few words on the concept of consciousness are advisable. The analysis of concepts always involves the same procedure: the isolation of the given which constitutes the meaning of the symbol. In terms of symbolism, there are two possible meanings of the term consciousness: it may be the equivalent of givenness, or it may be limited to the representative portion of givenness. Both of these meanings are used by critical thinkers, and if the distinction between the symbolic and the non-symbolic is only recognized, perhaps one use is as good as the other. We shall, however, use givenness in the second

sense as referring to the symbolic portion of givenness, and as equivalent to the physical or mental. If the term were used as a synonym for givenness, no harm would result, but the danger lies in believing that 'consciousness' is the explanation of givenness, — and this no *term* can be. Hence it is safer to make givenness stand upon its own feet, and to restrict consciousness to the representative portion. The conception of consciousness as a psychic searchlight, or as a hidden unifying entity, or as a unique realm of being, has no claim to consideration since it lacks any factual basis. Givenness is self-supporting and needs nothing to sustain it. It is the irreducible fact and cannot be explained away. Givenness — to speak figuratively — is selfluminous, and not a pit of abysmal blackness over which some transcendent searchlight of mind or spirit or consciousness sheds its beneficent and mysterious illumination.

Consciousness has born the brunt of the analytical attack upon concepts. James' essay 'Does Consciousness Exist?' — now found in *Essays in Radical Empiricism* — is a fine example of an earlier critical handling of a dominant concept. A substance view of consciousness is replaced by a relational one: consciousness is the presence of the same content in both the thing and the self series. But surely the idea fire and the fire which burns are *not* the same content. James thus confuses tactual and non-tactual given and does not have a clear insight into the precise nature of the symbol. This accounts for the ambiguity in his views of truth and meaning. Nevertheless the general attitude of James in regard to these problems has much in common with that advocated in this paper. He started from the given, and realized that subject and object, thought and thing, are functional distinctions within givenness. Thus "Consciousness connotes a kind of external relation, and does not denote a special stuff or way of being. ... *That entity is fictitious, while thoughts in the concrete are fully real. But thoughts in the concrete are made of the same stuff as things are.*" *Essays in Radical Empiricism*, pages 25 and 37.

In 'The Problem of Consciousness', *Journal of Philosophy*, etc., 1904, Woodbridge has developed a representative theory of consciousness. Consciousness is not regarded as a stuff, but as objects in a representative relation. Consciousness is thus a representative continuum, such continua being found in the vicinity of organisms. The specific connection of consciousness with the organism that is involved in the fact of meaning is not however developed.

The similarity between the distinction of givenness into non-symbolic and symbolic and Dewey's separation of immediate and reflective experience has already been noticed. Likewise, Dewey limits knowledge and consciousness to the reflective portion of experience. Page 9 of the *Essays in Experimental Logic* should be consulted for his use of 'experience' and page 225 for 'consciousness'.

This restricted use of the term consciousness does some violence to the popular use of the term as a synonym for givenness. One who faints is often said to have lost consciousness. The term is too valuable and distinctive to be used as a synonym for experience. 'Awareness' may be used for mere givenness. At any rate as here used, consciousness applies to the symbolic portion of givenness. A further distinction is to be made here for symbols may be used aimlessly as in reverie or in habitual verbal reactions, or they may be used systematically in the resolution of problematic and doubtful situations. This second use can be distinguished when necessary by the term 'cognitive consciousness'.

18) It may be advantageous to look back over the ground covered in this chapter. The aim has been to evolve a method which makes possible an analysis of the meaning of the numerous and ambiguous concepts which carry the burden of the intellectual activity of the age. Thus the nature of meaning became the acute problem. To solve this problem it was necessary to begin with whatever data there were at hand, and this 'something is' was called givenness. The aim was thus to start before thought and words, or rather to start with something of which thought and words were only a part. As a result of observation and analysis, the most fundamental distinction within givenness was found to be the distinction between the symbolic and the non-symbolic portions. This was found to be a functional relation and to depend upon the possibility of given substitute stimuli and upon the capacity of certain organisms for memory of past stimuli. Thus not only can organic activity be aroused by a substitute stimulus, but in virtue of the capacity of memory, the substitute stimulus can become a symbol of the original stimulus. For this reason the symbol was defined as a meaningful substitute stimulus. Since memory involves an organism, the symbol can only be understood in terms of the behavior context. Though marks on paper or sounds on phonograph can be passed around and stored away, the presence of some organism is necessary before they have any meaning or symbol character. The mental or physical was then found to be identical with the symbolic portion of givenness. Thought was identified with symbols and symbol sequences, and mind with the symbolic repertoire of an organism. Reflective thinking always involves some present given which is referred to by chains of symbols. Even in thinking about an absent object — as a dead friend — there is some present given which is separable from what is thought. There is within givenness a separation reflecting the separation of the thought and the thought-about. The locating of the given or set of given to which a concept refers and for which it is a symbol, constitutes the analysis of the meaning of the concept. Such an analysis was attempted in regard to the concepts of thought, mind, and con-

sciousness. The following pages will aim to clarify the material that has been descriptively presented by giving a corresponding genetical account, and to trace the implications of symbolism for certain fields of philosophical inquiry.

PART 3

SOME PSYCHOLOGICAL AND BIOLOGICAL CONSIDERATIONS

> "And, as the science of man is the only solid foundation for the other sciences, so, the only solid foundation we can give to this science itself must be laid on experience and observation."
>
> Hume

19) There is no need to point out the enormous importance of biological categories in modern thought, — the widespread use of 'survival value', 'adjustment', 'maladjustment', 'interaction of the organism and environment', and the like, furnishes ample testimony. Perhaps no realm of modern thought has been untouched by the attitude of interpretation which in Darwin gained so significant an expression, an attitude which in the last analysis interprets all of man's activities and products in terms of his interaction with the universe, and hence in terms of the game of life and death which it is fate to play. There is unrolled the long journey of life through the ages, the birth and death of countless species, and the ascendance of man — man the king of the beasts, man with his arts and science and religions and philosophies, — but always man in a universe which produced him and which ultimately must reclaim him.

Psychology has felt most strongly the impetus of this attitude. It has turned from the study of 'consciousness' to the study of the interaction of observable organisms and an observable world. Psychology has become a chapter in human ecology. The opposition to his attitude has been strong, particularly as psychology has reached out to the more complex realms of human behavior. The logician, the artist, the religionist, the philosopher have often resented the 'impudent' encroachements of the psychologist. As the psychologist is fond of pointing out, such opposition is itself a subject for psychological inquiry.

The previous account of symbolism was primarily a descriptive one and lacked concreteness. Our concern will now be with certain genetical aspects of the same subject, and with the placing of this material in its biological context. This will allow the past contentions to take on flesh and blood and to appear in their living fulness.

Throughout this portion of the essay, the naturalistic and evolutionary world view which characterizes science, shall be used without question. Reference shall be made to the world before man, to the emergence of givenness, and the like. This assumption of a reality not exhausted by present givenness may be for the time being regarded as an assumption, for it is not demanded by anything in the discussion up to this point. The present purpose is to look at symbolism from the view-point of contemporary psychology and biology; the validity of this view of the world concerns the relation of givenness and reality, and this shall come up for discussion later on in the essay.

20) Psychology claims to be an observational science, but psychologists differ as to what is observable, and so psychology splits up into schools of introspectionism, behaviorism, and functionalism. The analysis of givenness should aid in the interpretation of these various points of view. The introspectionist is concerned with observing and studying the non-tactual given. This may be a narrow field of study but it is surely a perfectly legitimate field of study. Such given are observed by each observer to cluster around his own organism. Thus if another organism appears among 'my' given there are no non-tactual given clustered about it in the way that there is about myself. This is merely to say that if these organisms other than mine have emotions, images, and sensations, *they* do not enter my givenness. This is not to raise the question whether these other organisms do have such givenness or not, but merely to point to the fact that the organism of the observer is surrounded by non-tactual given which are not observed around other organisms. The account of the interaction of organism and world will differ according to whether it is the observer's organism or other organisms that is being considered. The functionalist aims to put these non-tactual given into some sort of functional relation with the adjustment of an organism to the world; the behaviorist is concerned with organisms other than his own, and so has no place for such non-tactual given as emotions or images. When the behaviorist uses such terms as emotion or image he is forced to give them a tactual meaning in terms of actual movement or behavior. Thus the behaviorist

generalizes the method which must be used in studying organisms other than that of the observer into a universal method for psychology. Behaviorism logically ends in the study of stimulus-response sequences involving only tactual given. The behaviorist's rejection of consciousness as a field of study in no way invalidates the fact of givenness, for he practically uses consciousness to mean the non-tactual given which his position keeps him from dealing with. Though he can perhaps dispense with givenness in the actions of the organisms with which he is concerned, he must not forget that the relation of his subject matter to himself as scientist is one of givenness. To have material to observe means that something is given.

A clear recognition of the two points of view we have discussed would avoid much of the confusion which the unconscious shifting from one to the other occasion, and would vivify the necessity of a new functionalism which would do justice to both introspectionism and behaviorism, and thus avoid the one-sidedness which either alone engenders. The subject matter of such a functionalism would be all givenness which bears upon the adjustment of form and environment. The theory of symbolism may be regarded as a contribution to such psychology.

> Watson's statements of the behaviorist's point in regard to consciousness is interesting at this point: "The plans which we most favor for psychology lead practically to the ignoring of consciousness in the sense in which that term is used by psychologists today. We have virtually denied that this realm of psychics is open to experimental investigation. We do not wish to go further into the problem because its future rests with the metaphysician. If you grant the behaviorist the right to use consciousness in the same way that other natural scientists emply it — i.e., without making consciousness a special object of observation — you have granted all that our thesis requires." ... "Psychology ... can dispense with consciousness in a psychological sense. The separate observation of 'states of consciousness' is, on this assumption, no more a part of the task of the psychologist than of the physicist. We might call this the return to the naive use of consciousness. In this sense consciousness may be said to be the instrument or tool with which all scientists work. Whether or not the tool is properly used at present by scientists is a problem for philosophy and not for psychology." *Behavior, an Introduction to Comparative Psychology*, pages 26 and 27.

21) For the time being let us take the behavioristic attitude toward organisms among the given other than our own. We are not to bring anything into our account that is not directly observed in connection with the organism studied. We notice a constant correlation of some of the actions of the organisms with changes in the surrounding given. Some actions follow

immediately upon these changes and some come only after a time interval. The organisms focus themselves upon certain of the features of the world about them, though we do not know whether these features are 'given' to the organism. Such action we call attention. Some responses to stimuli are unlearned and these we call instinctive. Those responses which involve a new connection of stimulus and response we call learned. Some of these learned responses persist even when the stimulus has not been present over the intervening time, and these are cases of memory. A stimulus may call out a response which cannot be completed because of inhibiting conditions, — this is an image or idea. At times organisms do not immediately make an overt response, but begin to move their lips and throat and utter various sounds and noises. These are substitute stimuli and constitute language. At times we cannot witness these movements, and yet the response seems to require the action of substitute stimuli, — hence there must be thinking, that is, talking too delicate to be observable at the present level of experimentation. And so on down the list of psychological terms.

The very nature of this approach demands that thought and mind be defined in terms of substitute stimuli conceived as incipient responses. The concept of the symbol as involving the reinstatement of the original stimulus in the form of memory, cannot be admitted into the account, for this involves non-tactual givenness. Although entirely adequate within its chosen field, the behavioristic account is inadequate when non-tactual given are accepted as data.

It is from the behavioristic point of view that the genetic and functional aspects of symbolism become clear. The mediate process which characterizes reflection manifests itself externally in a delayed reaction, and this in turn is observed to arise when the habitual behavior is inadequate to meet some situation which has arisen. Reflection is revealed as a problem solving activity. It represents a complex extension of the learning process, where the overt trial and error process has been complicated and extended by the presence of substitute stimuli in the form of incipient behavior which somehow aid in the selection of the final behavior. Though accurate, this behavioristic account does not go far enough. It cannot explain the 'how' of a selective response.

> The account of memory and imagery necessarily differs with the psychological attitude adopted, and the terms have very different meanings to the behaviorist and introspectionist. Memory to the behaviorist can only mean the recall of a previously learned response upon the presentation of a stimulus which has not been operative during the interval. Imagery can only

mean incipient response. Hence memory and imagery are in this view always connected with the response. Memory to the introspectionist, however, is the recall of some previous conscious experience, and a similar account would hold for the image. In this view memory and imagery may be of a previously given stimulus.

The difference of the two accounts is due to the different perspective of the observers. From the functionalistic point of view the two accounts can be harmonized, for it insists that there can be memory and imagery *both of the stimulus and of the response*. Memory of the stimulus is neglected in most of the contemporary writing and the whole account of thought and meaning put in terms of the response.

Symbolism is built on the memory of the stimulus as well as the response. A symbol is differentiated from a plain substitute stimulus by the presence of the original *stimulus* in a non-tactual form (memory of the original stimulus). A symbol can mean a stimulus as well as a response. Behavior is only a part of experience, and an account which neglects everything else in its deification of behavior, is over-simplified. The ignoring of imagery from any specific point of view is justified but not an ignoring in general. Science is supposed to construct its theories in the light of the facts. Non-tactual givenness is just as ultimate a fact of experience as is behavior.

22) It is now necessary to investigate the claim that the substitute stimulus is inadequate to account for selective behavior, and that the symbol must be introduced in order to make such behavior intelligible. The contention will be that the substitute stimulus calls out the response just as surely and inevitably as the original stimulus did, and hence that it can play no selective role. This is not true of the symbol, for the memory of the original stimulus adds a new factor to the situation, and it is this memory which plays the selective rôle.

As a crucial example we shall take Hunter's experiment on "*The Delayed Reaction in Animals and Children*". In this experiment there are three doors, with a light back of each which may be lighted at will. The animals are trained by a simple substitution of stimulus to go out the door where the light is burning in order to get food. Then the animals are retained for some seconds after the light has been turned out, and then released. The problem now becomes that of going out the door in which the light was last burning. Since the original stimulus is now absent, there must be, if the problem is to be solved, something which takes the place of the original stimulus in the guiding of behavior. Obviously this substitute must be in the animal or in the external situation or in both. Cues from the experimenter, the heat caused by the light, the presence of after-images, the action of position habits, odor due to the heat of the light, the retention of bodily orientation, and the like, are possible sources of substitute stimuli to which the animal might be reacting. Then of course no mention of symbol would be necessary, for the action would simply follow upon the presence of the substitute stimulus. Hunter believes, however, that all external stimuli of this sort were rendered inoperative, and that the efficiency of after-images would be lost when the bodily orientation is lost. If external stimuli were actually rendered inoperative, then the substitute for the original stimulus would have to be found in connection with the animal. The orientation of the animal was found to be one important factor, the animal going toward the door to which it was pointed. Orientation was felt to explain the successes of the rats and the dogs. Some of the raccoons and all of the children were successful, however, even when the bodily orientation was lost. What is the stimulus which directed their behavior?

The behaviorist would reply that some organic activity was functioning as a substitute for the original stimulus in the guidance of the behavior, but he fails to state how a mere substitute stimulus could so function. Suppose some part of the organism which was functioning when the light was on keeps functioning after the light is out, and keeps the organism responding. How does it make the organism select one door rather than the other? That is, what makes the response relevant to the external situation? What accounts for the selective character of the action?

Functionalism would look for the operation of a symbol in this process of selective behavior, and hence for the memory of the original stimulus. Since the substitute stimulus aspect of the symbol could be in the external situation, only the meaning or memory is 'in' the form. It is because of the double locus of the two parts of the symbol that the action is relevant to the external situation; it is because of the presence of the original stimulus in a non-tactual form that the action is selective. Either the release or the sight of the three doors calls up the memory of the three doors when one was lighted, and the animal responds to the image or memory of the lighted door.

The main result of the delayed reaction experiment from this point of view is that it perhaps furnishes an objective test for the presence of symbols, and in order to explain the selective action involved, compels us to infer that some animals at least are centers of givenness, and that among the given at such a center are non-tactual given which do not appear to an external observer. Such experiments show the possibility, at any rate, of objective tests for the presence of symbols, and hence for a bridge between introspectionism and behaviorism in the form of a new functionalism.

It is not claimed that the Hunter experiment *has* accomplished this, though it is hard to interpret the results in any other way. The theory of symbolism does not depend upon the finding of an objective test for symbols, for it is conceivable that the view which considers all the given and the view which limits itself to other organisms within the given can never be reconciled. Perhaps symbols are only observable on the first view, and cannot enter into a behavioristic account. Even if this should turn out to be the case, the account of symbolism in the second part of the essay would not be invalidated, for this was a *descriptive* account of an observed distinction within the given.

Nevertheless, it seems as if the Hunter experiment does give an objective test for the presence of symbols. For a study of this point one should consult Watson's *Behavior, an Introduction to Comparative Psychology*, pages 224 to 227, and compare this to Hunter's account. Hunter, Garr, Washburn, accept the experiment as evidence for the presence of 'ideas' in some of the raccoons and in the children. None of the interpretations of the results are put in terms of the symbol, and in general the use of 'idea' is rather vague. Watson tries to explain the results solely in terms of substitute stimuli of the 'language' variety, but admits this does not account for the actions of the raccoons. Hence he is forced to question Hunter's results at this point. The symbolic account can handle the results observed in the raccons as well as in the children, even though the raccoons have no language symbols, and can sharpen the meaning of 'idea' as applied to such results.

Let us consider Hunter's interpretation of the results. Speaking of the 'non-orientation cues used by the raccoons and children' he says, "The type of function involved here is ideational in character. By applying the term 'ideas' to these cues, I mean that they are similar to the memory idea of human experience so far as *function* and *mechanism* are concerned. They are the residual effects of sensory stimuli which are retained and which may be subsequently reexcited. The revival, moreover, is selective and adaptive to the solution of a definite problem, and when aroused, they function successfully as a necessary substitute for a definite component of the objective stimulus aspect of the problem. ... The question now arises, Must this process be imaginal or may it be sensory?" (pages 73 and 75). Hunter then goes on to distinguish two types of representative processes which he calls sensory and imaginal thought, the first of which is genetically prior. "There are sensations that can initiate correct responses, under the above conditions, even though they have been displaced during the interval of delay by others of the same modality. Here would fall the sensory experience of the raccoons and the children. The evidence which indicates that no sensory process need be constantly maintained in order that these subjects may react correctly is unambiguous. It is this type of sensory process that I have denominated *sensory thought.* On the basis of human introspection, there is another grade or kind of learning, viz., the stage of the functional efficiency of images..." (page 78). "From this theory, it follows that subjects may be put into at least four classes on the basis of the highest type of learning present in their behavior: (a) absence of learning; (b) trial and error; (c) sensory thought, and (d) imaginal thought." (page 81).

From the point of view of symbolism there can be no sensory thought. If the sensation is not continually operative as the result of continual external stimulation then it must somehow operate independently of the external stimulation, and this involves the memory of the original stimulation, that is, its givenness in a non-tactual form. In so far as the stimulus is merely sensory no thought is involved. No distinction of types of thought is necessary since either a 'sensation' or an 'image' may operate as a symbol and thus act as a condition for the presence of the original stimulus in a non-tactual form. Hunter failed to consider just how these representative factors led to a correct response. Let us see how a symbolic account would explain the selective behavior involved in the results.

The light has been turned out, bodily orientation lost, and the raccoon released. How can he go out the door that was illuminated last? Assume for the moment that all possibility of external substitute stimuli has been excluded, as Hunter maintains. Then something else must be operative, something which utilizes the past experience of the animal for an adjustment to an external situation. It is hard to see how anything could meet these demands except the continued presence of the original stimulus in some form or other, for a continuing reaction of any sort can have no selective effect. Admit that some activity aroused by the stimulus had continued to function or resumes its functioning upon the release of the animal: *how can it direct the animal to the door in question*? Even if such activity is a substitute stimulus for the original response, it would simply call out this response, but could not direct it to the proper door, that is, insure the relevancy to the external situation. Neither Hunter nor Watson have considered this aspect of the problem, though it is fair to say that in a lecture Hunter talked of the 'reinstatement of the original stimulus by a substitute to bring about a selective response'. Had he emphasized this, his account would have been even more similar to the account in terms of symbols. He does not do this, however, and in the revised edition of his *General Psychology*, page 295, believes that there are no objective tests for imagery. Perhaps he has not fully seen the implications of his own experiment. Note also his interpretation on page 38.

The following interpretation of the delayed reaction experiment is proposed; either the releasing of the animal or the sight of the external situation acts as the condition for the givenness of the original stimulus in a non-tactual form. The animal reacts to the imagery and may start off in the wrong direction in relation to the external situation. But the perception of the external situation is very vivid and causes the present perception and the memory of the past perception to overlap so that there are not six doors given. The image of the light is now 'in' one of the doors of the present perception of the situation, and the reaction to the image carries the animal out through the door. In this analysis the symbol is either the givenness of the release or of the givenness of the three door situation. Considered alone, this is a substitute stimulus which merely calls out the response without insuring its revelancy to the external situation. The capacity for selection depends on the 'meaning' of the symbol which is the imagery (non-tactual reinstatement) of the original stimulus. The symbol in this example does not have a constant meaning, for the meaning is here the imagery of the most recent givenness of the illuminated external situation.

Watson has admitted his doubts as to the facts regarding the raccoons. Let us note his account of the behavior of the children. "In more highly organized subjects in which speech habits are adequate for all ordinary situation, the light may arouse a group of throat movements long since correlated with definite modes of response (e.g., the words 'go to the box in front when the door opens') .... At the moment of release the visual stimulus of the opening door re-arouses the vocal impulses which lead to their natural sequences, viz., movements straight forward to the box in front." (previous citation, page 226). This seems to simply push the question one step further along, for how do the speech habits have this selective capacity unless they are themselves symbolic? The above words were not merely substitute stimuli which started certain responses, but symbols, and thus they allowed the absent stimulus to guide the behavior by functioning in a non-tactual form.

Since the imagery in this experiment is visual and assumed to be superimposed on the perception of the external situation, it follows that the animal should not be able to consistently respond in a satisfactory manner if it be temporarily blinded by being forced to work in total darkness while the experimenter follows its movements by virtue of a small ribbon of luminous paint tied on to the animal's back. Such a result would be in harmony with the interpretation in terms of symbols, but not with an interpretation which made physiological processes within the organism the sole determining factors. The actions of the raccoons might also be taken as evidence for the presence of symbols before language symbols. In fact this conclusion seems necessarily unless one follows Watson's denial of the evidence. A repetition of the experiment with the above two points in mind would be of great value.

For the time being it seems necessary to regard the delayed reaction experiment of Hunter as an objective test for the presence of symbols, and hence for the reappearance of the stimulus in a non-tactual form.

In the light of this long discussion it appears that there are three possible levels of behavior: behavior that involves no substitute stimuli; behavior that involves substitute stimuli of the non-symbolic sort; behavior that involves the presence of symbols.

23) The delayed reaction is a simplification for the purpose of control of the situation which confronts all living forms. The ever-shifting environment places a premium upon those organisms which can deal with disappearing

stimuli and new stimuli which come into being. Behavior which does not involve symbols allows of no selective factors when a stimulus appears, for such behavior is called out immediately by the presence of the stimulus (with the exception of the type of delay involved in the retention of orientation). There is no sense in which such behavior can be called free, for the organism is entirely at the mercy of the appearance or non-appearance of the stimulus. Past experience is operative only in the sense that many of the stimulus-response connections have been built up in the lifetime of the organism. The future is not operative in the control of present behavior. The adjustment to the environment may be very subtle and fine as a result of the learning process. If 'intelligence' be used for this adaptive capacity, non-symbolic behavior may be highly intelligent. Such behavior is dominant throughout the animal world, and in a large portion of human behavior.

The introduction of behavior involving the presence of symbols opens a new and relatively unexplored means of adjustment. There is now possible the control of present behavior by absent objects or stimuli which gain entrance through the representative capacity of symbols. The immediate response can now give way to a genuinely delayed response. Thought and mind have made their appearance. In a real but non-metaphysical sense behavior involving symbols is 'free'. The behavior is determined in part by the operation of the absent stimuli through the symbols, and not entirely by the demands of the immediate non-symbolic stimuli. Control by absent stimuli means freedom from present stimuli. Free behavior is well illustrated by the 'purposive' activities. Here some plan or goal functions through symbols as a means of guiding behavior and of inhibiting response to irrelevant stimuli. Future consequences — entering through the door of the past — are then controlling behavior. Will is the tenacity with which a form can thus direct itself to some distant goal by avoiding the distractions of the moment. Desire — the symbol for behavior which has been aroused but which is prevented either by the disappearance of the stimulus or by the presence of obstacles from reaching a complete expression — finds in the use of symbols an instrument by which the environment can be controlled so as to satisfy its demands. Not only is the form now partly free from the pressure of the immediate situation, but it is free to some degree to remold the immediate situation. The degree to which the organism is free in any situation depends upon the symbolic repertoire that is available for that situation. Freedom — like all fine things — is an achievement and not a gift; it is actual only to the degree in which symbols and not non-symbolic stimuli are controlling present action.

Behavior involving symbols is a complex extension of the learning process characteristic of most, if not all, living forms. The functioning of symbols allows the overt trial and error process to take place on the mental level, and behavior which would prove fatal in the tactual realm can be tried out with impunity in the realm of incipient behavior and non-tactual givenness. Further, symbols within the tactual realm serve as signs of what is to come by virtue of their connection in the past with these predicted experiences. The organism which can use parts of its environment as signs of other portions gains a plasticity and degree of adaptability inconceivable on the level of non-symbolic behavior. Thus intelligence — the capacity to solve present problems in the light of past experience — is found to a high degree on the level of behavior into which symbols enter.

The biological value of this third level of behavior is vastly augmented when the symbolic repertoire includes language symbols. Then not only is the experience of the individual form available, but potentially the whole body of experience of those who share the language symbols. Vast cumulative achievements become possible, with concerted attacks on an indifferent environment. Complex symbolic systems can gradually be built up, and correspondingly great educational projects to give these symbols meaning in terms of the experience of the rising generation. A storehouse of the past is a means to the bounties of the future.

24) The extent to which and the ease with which parts of the given take on the symbolic function differs with the organism. Though due in part to training, this difference is probably in part due to an innate biological sensitivity which allows of more rapid stimulus substitution and a greater capacity for the imaginal rearousal of past experience (including the time span over which this is possible). Because of the part that words play in human symbolical activities, the delicacy of the connections between the throat and the rest of the organism is perhaps one source of the difference. Whatever the precise cause, it is certain that people differ greatly in the extent to which experience has become — and can become — symbolic. It is from the ranks of the 'born' symbolizers that the great thinkers and artists are drawn. A high capacity for symbols, nurtured and developed by contact with past symbolic expressions and with the non-symbolic richness of the stream of givenness, is a fundamental characteristic of the genius. The demand for expression — translation of experience into a symbolic form — is just as biologically imperative for such an organism as are the demands of hunger and love. This is true whether the

given that is symbolized is largely the non-tactual given and the incipient behavior of the organism, or whether it is largely the thing or tactual aspect of givenness, that is, to employ psychoanalytical terminology, whether the symbolizer is an introvert or an extrovert. Artist and scientist, idealist and realist, often represent the two aspects of this personality contrast.

Thus symbolism has close connections with the problem of personality. Just as mind can be considered as the symbolic repertoire of an organism, so personality can be considered as the behavior repertoire of an organism. Since mind manifests itself in behavior, the category of personality includes the category of mind. The pyramid of personality has for its base the realm of unlearned behavior, for its bulk the great mass of learned behavior, and for its apex behavior involving the functioning of symbols. The ideal of personality would lie in the proper harmony and interpenetration of these three levels. The development of the symbolic level to the neglect of the other connections of the organism and the world which require learning, creates the thinking machine that is ill at ease in any but a symbolic environment; the lack of development of the symbolic level creates a person at home in the world of things and people, but the slave of things rather than their master. The 'man of thought' has great potentialities of control, but no leverage for them to become effective; the 'man of action' has great need for control, but lacks the necessary means. A rich personality necessitates the breakdown of this artificial separation and demands the interpenetration of theory and practice. The higher ranges of personality are inseparable from the complex functioning of symbols in behavior, but equally inseparable from the harmonious interpenetration of these and the non-symbolic portion of experience. The dissociation of personality reveals the outcome of a deficient behavior integration and a consequent splitting of the symbolic repertoire and hence of 'mind'.

25) A symbol has a direct effect upon behavior. The much abused term 'suggestion' refers primarily to this fact. By the manipulation of stimuli, many of which are symbols to the one doing the stimulation but not to the one stimulated, a control over action is secured. Thus to an unscrupulous orator such words as 'honor', the 'flag', the 'home' may be symbols of the attitude or behavior which he wishes to arouse in the audience for the furtherance of his purposes. By indirect suggestion the speaker has controlled the responses of the audience without them realizing that this has been done.

Under certain conditions there is no need for proceeding in an indirect manner. In the hypnotic condition the stimulus or symbol works directly and without opposition upon the behavior of the person. Symbolism offers a cue to the nature of this phenomenon. In the normal waking condition suggestion is usually indirect in order to avoid arousing symbols in the person which would inhibit the desired response. The hypnotic technique offers a way of inhibiting the symbolic and substitutive repertoire of the person, and hence the presented substitute stimulus or symbol, as the case may be, calls out the response without opposition. It is for the same reason that many responses can be elicited under hypnotism that cannot be secured when the normal inhibitions are operative. The lack of resistance in this state makes the establishment of new stimulus-response connections much easier than in the belligerent state of normal waking life.

> The precise physiological factors involved in hypnosis can only be speculated upon at present. The larynx and the cortex appear to be fundamental physiological conditions for the complex operations of symbols in man, and anything that would diminish their activity would reduce the symbolic function accordingly. The cause of this diminution is hypothetical, and until experiment enters the field, one guess is as good as another.

26) The consideration of the social factors which enter into a person's personality and mind deserve some attention, even if the scope of the subject precludes an adequate treatment.

The fact that man becomes what he is only in society furnishes a natural means of transition to the view that all thought is social, and that the symbol and the language symbol are identical. Although the higher achievements of the mental life are easily seen to be impossible without the complex social stimulation of civilization, the logic of the case does not demand that the first symbols were social symbols. There is nothing in the nature of the symbol that demands the presence of even two organisms. As Watson has pointed out, a phonograph could present the substitute stimulus to the child just as well as the mother. Hunter's results with the raccoons give a possible example of the presence of symbols that were not language symbols. The presence of two organisms at a happening which becomes symbolic to both, is simply the occurence of *two* conditioning processes which might just as well have taken place separately. It is the accident of the simultaneous presence of organisms that generates a language symbol instead of a non-language symbol.

This connects up with the fact that there are no social instincts as such. The child is socialized by having his responses conditioned by social stimuli. Similarily, to speak in evolutionary terms, the social life of primitive man was acquired, due to the fighting power which the group made possible, and not to a 'herd instinct'. Man has *become* domesticated and socialized. The complexity of the social stimulation which group life made possible, has in turn reacted back on the participants and has made man as we know him. Not only the complex reaches of mind reveal a social origin, but the subtler shades of personality as well. Even individualism is a social product, for it demands the recognition of a self as distinguished from other selves.

Such a self is a social product. The child comes to know himself by what others think of him. The whole body of such knowledge, augmented by the givenness of the child to himself, becomes symbolized in the term 'self' and in his name. The self is thus generally smaller than the personality, for only a small part of the behavior repertoire is given or symbolized. The term 'I' refers primarily to the self, but extends at times to the whole behavior repertoire we have called personality. The continuity of the self is found in the relative inertia and continuity of the behavior complex and in the leisureliness of the bodily changes. If the process of change is too rapid to be assimilated under the old symbols, the continuity of the self is broken, and various forms of dissociation appear.

The judgments of others become symbolically internalized in the 'other' of conscience. Since the customs differ from group to group, conscience likewise differs from group to group. At this complex stage thought often takes on the forms of a conversation between the self and the other, and due to the early training of the child, practically all of the symbols are language symbols. This complex level of mind must not however be put at the beginning of the development of mind, the roots of which are to be found in the nature of certain individual organisms, though the flowers appear only in the social process.

> Mr. Mead's paper on the significant symbol limits the meaningful symbol to a stage in behavior in which the social self has been developed. "The significant symbol is then the gesture, the sign, the word which is addressed to the self when it is addressed to another individual, and is addressed to another, in form to all other individuals, when it is addressed to the self." *Journal of Philosophy*. Volume 19, 1922, page 162. And again, "It is through the ability to be the other at the same time that he is himself that the symbol becomes significant. The common statement of this is that we have in mind, what we indicate to another that he shall do." ibid, page 161. The symbol then involves a reference to self and to the generalized other. Thought becomes "the conversation of this generalized other with the self." The same general state of affairs holds in regard to meaning: "The widest use of the term implies that he indicates the meaning to any other individual to whom it might be pointed out in the same situation. In so far then as the individual takes the attitude of another toward himself, and in some sense arouses in

himself the tendency to the action which his conduct calls out in the other individual, he will have indicated to himself the meaning of the gesture. This implies a definition of meaning — that it is an indicated reaction which the object may call out." *ibid*, page 161. "The response becomes a meaning, when it is indicated by a generalized attitude both to the self and to others." ibid, page 163.

With the exception of limiting meaning to the response and a failure to clearly separate significance and signification, the present essay accepts the above account as descriptive of the complex levels of the symbolic process. With the development of the social self by the conditioning of the child's response by other organisms, the behavior repertoire of the child separates into two behavior groups which may be called the social and the non-social selves. Social attitudes have become internalized in the individual as genuine parts of his personality. It is in this way that the 'generalized other' and 'conscience' come into being. At this level of personality, particularly in moral issues, thought does take the form of a conversation between the two selves, and the symbols common to these two selves are language symbols. Such symbols which arise from the internalization of the social situation may be called internalized language symbols, for although there is only one organism present, there are two selves. These internalized language symbols are impossible before the development of the social self, and involve a reference to self and to others. They appear to be identical with Mead's 'significant symbol'. Thought and meaning on this level *are* social.

Some terminological considerations arise. Mead feels that this last level is of such a distinctive nature that thought and meaning should be reserved for such usage. On the other hand, this level must have developed from simpler levels, and these levels we have called symbolic. Three stages have been isolated:

1) that of the symbol in its simplest form
2) that of the language symbol
3) that of the internalized language symbol.

The first level differs fundamentally from the level of the non-symbolic substitute stimulus and should receive some distinctive name. The second level implies two or more organisms but does not imply the development of the social self. In this essay the terms, symbols, thought, meaning, have been applied to these levels. Mead would question the advisability of this.

Though much work remains to be done in the tracing of the symbolic development in the animal world, it does seem as if all three of the above stages have a place in the study of symbolism. The third level seems to presuppose the other two levels and is a development of them due to the introduction of the social self.

Mead's article 'A Behavioristic Account of the Significant Symbol', and Dewey's article 'Knowlege and Speech Reactions', both in the *Journal of Philosophy*, 1922, and Chapter 5 of Dewey's *Experience and Nature*, are important sources of relevant material.

Allport's Social Psychology, particularly chapter 8, offers a good account of the origin of language in the child and in the race, but is weakest on the treatment of thought and mind. He really never gets beyond the stage of the substitute stimulus, and hence misses the criterion for thought and mind. Thus he identifies reasoning with 'cortical activity' (page 55), and regards mind as 'an organized system of reflex activities' (page 30). The symbol is treated in terms of the response to the neglect of the stimulus: "A symbol is a brief and labile response usually undetected in outward behavior, but capable of being substituted for overt responses." (page 55). The book on the whole is an excellent one, particularly in its treatment of the process of socialization of the individual organism.

27) The greater the height the deeper the abyss: man pays for the privilege of symbols by what Hobbes so well called the 'privilege of absurdity'. This may range anywhere from confusion among symbols, through the confusion of symbols and things, to the purely compensatory use of symbols met with in many types of 'mental disease'. For the moment our concern shall be with this latter use of the privilege.

Symbols normally have an adaptive and directive function in behavior, as they point on beyond themselves, and are tools for the handling of that to which they point. But since they are substitutes for those further things and call out in part the same reaction as they do, it is easy for the instrumental nature of the symbol to drop out of sight and for the symbol to become an end in itself. A simple and well-known illustration of this difference is the contrast between non-reflective and reflective thinking. In day-dreaming, or in the ordinary reading 'for pleasure', there is a flowing stream of symbols — substitute stimuli and reinstatement of the original stimuli and responses — which produces an agreeable condition of the organism often compensatory for the thwarted desires and disagreeable experiences encountered in the tactual realm. The symbols are not used as in reflective thought to solve a particular problem in the tactual realm, but are used for the erection of a new environment more congenial to the desires than is the tactual environment. Reverie, day and night dreaming, mythology, and much of religion, art, philosophy, and inspirational writing are of this nature. The symbol used in reflective thought to further and augment action, has, in autistic thinking, taken the place of overt action.

This process, normal within certain limits, reaches its extreme in the functional types of insanity. Functional insanity represents a personality derangement growing out of the lack of adjustment between the individual and his world, and is contrasted with the organic insanity caused by inherited or acquired defectiveness of the organism itself. The emergence of this supplementary concept of insanity — in no sense a rival to the physiological conception — is a striking example of the fruitfulness of the ecological trend of modern psychology.

Functional insanity is statable in terms of substitute stimuli and symbols. The difficulty may be merely one of an undesirable connection of stimulus and response and then the cure is effected by dissolving the connection in the light of its formation, and by establishing a new and more desirable connection. The cited church bell episode was of this nature. Or again, the phenomenon may be of a compensatory nature, resulting from unsolved conflicts in the tactual realm. Insanity then is an achievement, and provides a way out of the conflict, though not an actual solution of it. Symbols may be practically separated from the tactual realm to which they were originally instrumental and from which they were derived. The conflicting factors are not resolved but simply torn asunder. The scrub woman may also be a queen provided the two realms in no way interpenetrate. Within the realm of compensatory symbols the responses called out are desire satisfying, and there at least the satisfaction, the peace, the emotional warmth, and the longed for action have their day and hour that was denied to them in the world of things and overt behavior. The crumbs from the table of life have been transformed into bread. Tragedy has clothed herself in a purple veil...

Treatment involves the integration of the conflicting behavior tendencies and the reestablishment of the instrumental use of symbols in connection with the tactual realm. The probing into the original conflict which is necessary to attain a rational and satisfactory solution, naturally meets with the resistance and opposition of the sufferer. The treatment is essentially a process of re-education, of establishing a more vital and satisfying relation between the individual and his world, — a relation in which the symbolic and non-symbolic aspects are in functional accord, and not separated by frustrated desires and compensation by symbols.

> Psychologists have tended to belittle the psychoanalytical material on the ground that it is not 'scientific', and often fail to do justice to the part this material had played in the formation of the new theories of mental disease. The results appear in an ever greater degree in the books of the 'orthodox' psychologists with scarcely a recognition of their origin. The novelistic terminology of the psychoanalytical movement is due perhaps to the fact that at the origin of the movement psychology had no terminology to offer that was of any value to the investigator of mental disease. While it is true that with the change of attitude and terminology in psychology, the facts of

psychoanalysis can be explained in a manner much more satisfactory to science — such as in the approach of this section — the facts still remain and their origin must not be forgotten.

The use of the term 'unconscious' has proved, in spite of its suggestiveness, an unfortunate one when the concept is conceived as standing for an entity. Until it is known what is meant by a 'conscious mind' nothing but ambiguity can be expected concerning the meaning of 'unconscious mind'. In terms of the theory here presented, unconscious means either the existence and influence of something that is not given, or of some given that is not symbolized. Since ideas and mind are types of given, an unconscious mind would involve nongiven given, — and this is clearly a case of verbalism. The only valid use of the term besides the two suggested would be for the functioning of one set of symbols which would not be given at some *other* center of experience. The mind of someone at a distance is not given to those here and now. It is possible that the same organism could be the center for two independent realms of givenness and hence of mind. There would then be a coconsciousness at one organic center in the same way that two human organisms are co-conscious centers.

Some of the workers in psychopathic realms have gone far in the direction of symbolism. Both Jeliffe and White have identified the mental and the symbolic. White in his *Mechanism of Character Formation*, page 109, says of the psychic level, "here we are dealing with symbols and symbols only", — although his conception of the symbol is hardly adequate. The remark on page 334 is interesting: "The energetics of the symbolic level is the new avenue of approach to an understanding of man." A new view of mind is of great importance for a more adequate theory of mental disease.

28) The amplification in this chapter of the theory of symbolism lends itself well to a genetic restatement, even though this can only be hinted at here.

The search for the conditions of the emergence of behavior involving symbols would in itself be an elaborate study. It is conceivable that there was a time when living forms had no givenness of the stimulus to which they were responding. This condition persists even on the human stage: the body adjusts itself to changes of temperature and humidity, and the glands and blood vessels make subtle changes and responses, without the stimuli being 'given' in the sense in which this term has been used. At a later stage it is assumed that there develop variations in certain forms of the general sort known as sense organs, and that these, together with a host of hypothetical factors, act as the conditions under which given emerge. The stimulus is now not merely operative, but also given to the form upon which it is operating. The chance which this allows to localize, focus upon, and keep track of the stimulus, would have such survival value that forms of this nature would tend to persist. Along with givenness, though not necessarily connected with it, would be the premium set upon the forms which could connect their unlearned behavior with new stimuli, for such forms alone could adjust themselves to a changing environment. Although substitution is theoretically possible at the stage before givenness — itself hypothetical — its power would be greatly increased if it happened along with givenness.

It is from such a level that the level of the symbol genetically evolves. To make this transition the presentation of the given substitute stimulus must act as the condition for the emergence of the original stimulus in a non-tactual form. Since part of the condition for the original givenness was a certain stimulation of the organism, the condition for the reappearance of the original stimulus in a non-tactual form would seem to be a similar stimulation of the organism, and this is effected by the substitute stimulus. In the memory or imagery of a response the incipient restimulation of the organism *is* the memory or imagery; in the memory or imagery of the stimulus the restimulation is the condition for the emergence of the imagery but is not identical with it. As has been noted, much of contemporary thought limits memory or imagery to the incipient response and neglects the reappearance of the stimulus in a memory form. It is only when the latter appears upon the presentation of the given substitute stimulus that the symbolic stage has been reached. The selective action of the symbol gives survival value to what was originally an accidental occurence.

In man at least the development of language symbols constitutes a more complex extension of the symbolic level. Although movements of the body and objects in the external world can become language symbols, it is the use of words that characterizes the human development. Vocal sounds are a by-product of the digestive and respiratory tracts, and due perhaps to the changes in blood pressure and muscular tension resulting from sudden movement which cause a change in air pressure and thus a sound or roar as the air is expelled. Man's laryngeal development is perhaps the result of a mutation which survived and later became efficacious as a source for symbol material. Sounds are ideal for this purpose since they are always available, leave the hands free for overt behavior, and can occur with practically all other given. They are ideal language material because they are available to many forms simultaneously, in light and darkness, and over large spatial areas. Since the sound stimulates the organism that emits it as well as other organisms, it offers opportunities for self-stimulation and control. The sub-vocal use of words is the dominant, though not exclusive, characteristic of human thought, which is often an internalized form of the social process of communication. The importance of this in the development of the self and as the ground for the social or conversational nature of thought has been well shown by Mead. Although language is not as ultimate or fundamental as is the use of symbols, it is in the implicit and overt use of language of the word type that man has attained his distinctive nature and capacity.

> The view of mind that has been presented is an 'emergent' one, and bears resemblances to the theories of Alexander, Morgan, and Dewey. The aim has been in the present account to show precisely how and when mind emerges, for the mere statement that it does is only part of the story. It is mind that distinguishes man from the rest of the animal world, and makes him supreme in that kingdom. There is no reason to limit behavior involving symbols to man, but there is reason enough to regard the complex extension of such behavior as man's distinguishing characteristic. The physical differences of the nervous system have undoubtedly made this symbolic development possible, but are not in themselves sufficient to explain man's dominance. A discussion of the relation of 'Man and Beast' will be found in the tenth chapter of Watson's *Behavior, An Introduction to Comparative Psychology*.

29) The extensive development of symbolic behavior has made man the 'king of the beasts'. It is here that the key to the science is to be found, and the entrance to the arcanum of all that is distinctly human. The account that has been given is necessarily meager from the purely scientific viewpoint, but it is, it is believed, rich in philosophical significance. It presents a point of departure that is scientific at bottom, and yet is capable of extension to the most complex philosophical fields. It allows the study of all human activities with a biological attitude without doing injustice to the distinctive nature of those activities. It is equally applicable to the control of social and non-social processes, and to the place of philosophy — the furthest extension of the symbolic process — in these other processes. To the preliminary applications and implications of the theory of symbolism we shall now turn.

PART 4

THE LOGIC OF SYMBOLISM

> "... Bacon felt, and with justice, that any logic which identified the technique of knowing with the demonstration of truth already possessed by the mind, blunts the spirit of investigation and confines the mind within the circle of traditional learning.
> ... A logic of discovery on the other hand looks to the future. Received truth it regards critically as something to be tested by new experiences rather than as something to be dogmatically taught and obediently received."
>
> Dewey

30) Logic may be defined as the study of the nature and function of symbol systems in general, where nature means the relations and connections between symbols, and function means the relation of the symbol systems to the non-symbolic realm. The preoccupation with systems separates logic from the psychology of isolated symbols in behavior, while the study of such systems in general distinguishes logic from mathematical or linguistic studies of specific systems.

It is to be observed that the application of the distinction between the symbolic and the non-symbolic given to logical theory offers a synthesis of opposing views of logic. The inquiry into the nature of symbol systems constitutes formal logic; the inquiry into the relation of such systems to the rest of reality constitutes instrumentalistic logic or 'psychologic'. There is no unbridgeable chasm between these two dominant logical movements, — they are the two poles of logical theory. Some logicians would favor restricting 'logic' to the symbolic realm, while some have regarded such logic as sterile and unworthy of the name. Both these views are extreme: the former alone would betray a compensatory use of a noble study; the second alone would slide off into psychology or biology and neglect the complex structure of the symbolic realm.

Logic as the study of the nature and function of symbol systems in general does justice to both opposing points of view. It is in sympathy with the furthest extensions of formal logic and yet is able to supply the unwritten account of meaning so necessary to a rounded and adequate logic. It welcomes any relevant psychological or biological material without thereby losing its own individuality. It is a mature logic aware both of itself and its relation to the non-logical.

Before passing on to a brief study of the two branches of logic, it will be well to make a general comment involving a use of terms. For the purpose of not confusing these two aspects of logical study, it is advisable to limit consistency to the purely symbolic realm and to only use truth for a specific relation of the symbolic to the non-symbolic realm. Consistency then refers to relations between portions of a symbolic system, and such relations are never to be called 'true'. The specific nature of truth will be discussed in a later section. We shall now turn to formal logic which involves the nature of consistency and the characteristics of a symbol system.

> The distinction between the internal nature of symbol systems and the function or place of such systems within reality at large has appeared in logic in the various discussions of intension and extension, formal and material truth, deduction and induction.
>
> Intension is the definition of symbols in terms of other symbols, formal truth is synonymous with consistency among symbols, deduction refers to the progressive unfoldment of a symbol system. All these terms refer to the field of formal logic as here interpreted. Formal logic is necessarily limited to demonstration and presentation of material already known, — hence its dominance in those centuries where there existed no doubt as to the truth of the fundamental premises. Formal logic lends itself well to a regime of authority.
>
> Extension gives the non-symbolic referent of a symbol, material truth denotes a relation of formal logic to the world of facts, induction refers to the process of discovering facts which can then be symbolized and ultimately presented in deductive form. Hence these three terms all point to a connection of the symbolic and the non-symbolic portion of the world. Modern

philosophers have been preoccupied with the problem of method simply because the turn from reliance on dogma to the facts of experience has made necessary a method of attacking experience. The experimental method represents the present culmination of this search. The logic of discovery must be sharply separated from the logic of demonstration even though in practice the two are inextricably blended and form 'logic'.

Moore's article on the 'Reformation of Logic' in the volume called *Creative Intelligence* gives a clear presentation from another angle of the general view which underlies the following discussion of logical theory. Dewey's *Essays in Experimental Logic* gives the technique of the instrumental aspect of logic. Schiller's *Formal Logic* makes clear the central importance of meaning in placing formal logic in its behavior and environmental setting. Lewis' *Survey of Symbolic Logic* is invaluable in connection with the formal study of symbol systems. None of these writers has approached the subject from the view-point of symbolism that is central to the present discussion and hence is in no way responsible for the interpretation which is here developed.

31) For many centuries Aristotelian logic was thought to exhaust formal logic (the logic of consistency). There has recently, however, arisen a sturdy denial of this claim in the movement known as symbolic logic. This in its narrower meaning simply offers symbolic systems other than the Aristotelian one. But the movement can be interpreted in a much larger sense as offering a study of 'types of order as such' and this Lewis prefers to call logistic. Aristotelian logic and symbolic logic are then interpreted as specific types of order. All of these fall within the realm we have called formal logic dealing with the relations among symbols in symbol systems. The term 'symbolic logic' would however lend itself well to the logic advocated in this essay which includes *both* formal logic and instrumentalism or psychologic. Since the term has, however, taken on the narrower usage, it is best to call the larger total view here presented 'the logic of symbolism', remembering that this has room for both aspects of the logical movement.

Symbolic logic has both combatted the pretensions of Aristotelian logic and has at the same time purged it and rendered it consistent. It has accomplished the former by setting up perfectly consistent alternative logics, thus breaking the back of the argument that the syllogism is *the* canon of reasoning; it has accomplished the latter by finding inconsistencies within the Aristotelian system which invalidate the claim to formal consistency. Symbolic logic has thus sharpened the separation of formal logic from psychologic in a way that throws light upon the relation of the symbolic and the non-symbolic realms.

Aristotelian logic is formally invalid because it contains as its unwritten premise the assumption that the classes with which it deals have members, that is, that it applies to the non-symbolic world. The word 'some' was not merely a formal concept but included or implied reference to a realm other than the symbol system in question. Hence it was regarded as legitimate to pass from the universal to the particular proposition. At this point symbolic logic accomplished the purging by the introduction of the null class or the 'class without members'. The passage from the universal to the particular is not formally valid if the class of the universal is a null class. The passage becomes formally valid if we supply the assumed premise that 'the class of the universal has members'. Now the phrase 'class without members' is on a par with an 'unconscious mind' unless one realizes that it actually refers to a latent symbol in some symbol system that has as yet been given no existential reference, — that is, it is a potential symbol but not an actual symbol for its meaning has not yet been supplied. If a symbol has been given no reference, obviously we cannot pass even from 'all' cases of this symbol to the *existence* of 'some' of the referents, — simply because *no* reference has been supplied. If the 'some' in the Aristotelian logic always had been interpreted as 'some, if any' then the introduction of the null class would not have been necessary.

For our purpose then the great contribution of symbolic logic has been the sharp separation of symbol systems from the relation of these systems to the non-symbolic realm (which includes symbol or symbol systems other than those in question). Aristotelian logic has prejudiced the relation of the symbolic to the non-symbolic by merely assuming that a relation existed. It confused consistency and truth. It tried to ride two horses at once without being able to control either separately. The aim was sound but the achievement faulty.

> For the discussion of such terms as 'symbolic logic' and 'logistic', pages 1 to 5 and the entire last chapter of Lewis' *Survey of Symbolic Logic* should be consulted. This will aid in distinguishing symbolic logic from the logic of symbolism presented in these pages. Chapter 3 of the above work shows clearly the relation of symbolic and Aristotelian logic, and the simplicity of the treatment of immediate 'inference', and of the criteria for consistency which the symbolic logic makes possible.

32) The movement of symbolic logic has however an importance that cannot be exhausted by reference to the Aristotelian logic. The production of consistent but independent systems naturally awakened an interest in the comparison of such systems and in a study of their internal nature.

It is possible to summarize the results in some such manner as this: a type of order or a symbol system includes all that can be derived from a set of specified postulates by means of specified operations. Such a system in which the conclusions come *solely* from the *specified* — not assumed — postulates and operations is a consistent system, — and this relation defines the meaning of consistency. The conclusions are derived from the premises by means of the operations, and so the conclusions are consistent with the premises. The syllogism is a simple example of such a system, although the operations are not made explicit. This ambiguity in regard to operations, together with unrecognized premises or assumptions, is the great source of inconsistency. The fallacies of the Aristotelian logic are largely attempts to avoid the conclusions.

The status of the symbols in a symbolic system deserves mention. These symbols have no *specific* meaning but only a general meaning: they mean any other symbol. They are latent symbols or universals, with many meanings, any of which may be supplied. For this reason a symbol system is really a system of symbols and not merely a set of marks. Such symbols are not meaning-*less* but merely of a general meaning, and can be given various concrete meanings.

Whether any specific conglomeration of symbols — such as a language or a group of mathematical symbols — is a system depends upon whether a set of postulates and operations can be found that will allow the symbols in question to be deduced. The widespread development of the postulational method in modern thought grows out of the attempt to reduce a large body of material to systematic form. A deductive system comes late in the reflective process, and implies a previous mass of symbols and partial symbol systems. The deductive form is essentially expository and argumentative. Only in pure mathematics does one *start* with the postulates and operations and see what can be deduced. Usually the conclusions are there first and the problem involves finding the postulates and operations.

33) Formal logic thus becomes the study of the structure of symbol systems, and is concerned with consistency and not with truth. It is the most generalized study within the symbolic realm, dealing with symbols of all other symbols. The concern is solely with relations between these most general symbols, and not with their relation to anything else.

There is no limit to the number of these symbol systems which are possible, nor to the comprehensiveness which they can attain. It is important to realize that none of these systems considered as a whole is either true or false and that therefore none is 'truer' than another. No such system can be overthrown by any logical or non-logical happening, simply because it is constructed with no reference to anything outside of itself. Consistency is an internal affair and is independent of any specific meaning that may be attached to the symbols. The consistency of a system is independent of its fate when applied to the non-symbolic realm. The system may be clumsy and limited in application, but it can never be overthrown by 'facts'. Provided the number of symbols is sufficiently large, each symbol system could handle all the facts which ever turn up in the non-symbolic realm, just as nothing could happen which the French language could not describe or predict as well as the German. They are rivals only in the field of application but not in the field of formal logic. As systems they are neither true nor false.

This peculiar character of symbol systems is a great inducement to many thinkers to assign to such systems some independent type of reality, and to convert them into a Platonic realm of being. There is no philosophical justification for such a step. It is only the generality of the symbols employed and the interest in their consistent relations which gives the systems their distinctive nature.

It is also a distortion of perspective to give such symbol systems and definitions by symbols the status of 'absolute truth'. The compensatory use of symbols is evident here. Many a mathematician, logician, and scientist has turned to such 'absolute truth' with an emotional fervor that is literally religious.

'Truth by definition' is however a meager sort of truth. In so far as one gives no concrete reference or meaning to the symbols of such a statement as "all men are immortal", the statement is eternally 'true', for if a case of mortality turns up, then it is not a case of 'manness'! Experience may never give a case of man but it can never overthrow the definition. As soon as *a specific* meaning is given to the symbols, then the statement is potentially true or false and experience plays the determining role.

The appellation of absolute truth is misleading, for it suggests an importance that is lacking in the actual state of affairs. Definition by symbols (intension) is impervious to experience merely because the symbols have only a general meaning and lack a specific existential meaning. Only in this way is the logic of consistency safe from refutation or confirmation by the non-logical realm from which it has practically — but as we shall see, not entirely — isolated itself.

The hypnotic sway which the completed deductive system has so often held shows well the emotional and compensatory aspect of the use of symbols. Were it not for the bad effects on logical theory and scientific method one could well afford to leave this realm to the mystic idolatry of many logicians. However, it should be clear that the deductive system presupposes a large body of existing material and a complicated trial and error process before it is attained. No one assumes that Euclid, or Spinoza, or Whitehead and Russell started with the postulates and attained the conclusions. The conclusions were chronologically prior, and the problem was one of systematization and presentation. The 'absolute truth' thus attained is a human creation, and arises out of the nature of definition by symbols. Lewis' article on 'A Pragmatic Conception of the A Priori' in the *Journal of Philosophy*, volume 20, should be read in this connection.

34) Such a consideration of formal logic has wide implications for a philosophy of mathematics. It has been remarked that the ability to deal satisfactorily with mathematics is the crucial test of an empirical or naturalistic philosophy. Mathematics has been the great stumbling block for past empiricisms, and the haven of refuge for idealists, rationalists, and modern realists. Mathematicians, like artists, seem to be potential Platonists, and resist with difficulty the seductions which a Platonic realm of timeless being offers.

The logic of symbolism offers a naturalistic approach to mathematics. Past empirical studies did not sufficiently appreciate the nature of the symbol or the complexity to which the process of symbolism can be carried. Hume's account remained on the level of visual imagery and was utterly inadequate for the higher mathematical studies. As soon as it is realized that symbols can be symbolized by symbols *ad infinitum* and thus gain an ever more general meaning, the way to a more adequate naturalism appears.

Mathematics is a complex refinement of the symbolic process. It is a collection of symbol systems of essentially the same character as those we have been studying, perhaps reducible to a single system. Mathematics is a portion of logistic or formal logic, and the two can in no way be separated. The mathematical systems are consistent but neither true nor false when considered as systems. The extensive use of the postulational method in mathematics, the rise of the non-Euclidian geometries, and the profound studies of men who were both logicians and mathematicians, have made possible this position as to the nature of mathematics and its relation to formal logic.

In connection with the treatment of mathematics reference may be made to the *Survey of Symbolic Logic*, pages 354 to 362, and to Brown's article on 'Intelligence and Mathematics' in the volume *Creative Intelligence*.

Whitehead's *Universal Calculus* uses calculus as symbol system has been used here. The same remark may be made of Keyser's use of the doctrinal function in his *Mathematical Philosophy*, Lecture 3. Neither use 'truth', however, in the way advocated here.

The Introduction of Keyser's work illustrates the Platonic extravagance of taking symbol systems metaphysically rather than naturalistically. The systems of ideas are — on page 22 — transformed into Platonic absolutes which are beyond the intellectual realm and its concepts, 'shining from above them like downward-looking aspects of an over-world..'. Such a system is discovered by man but not created by him, — 'it is an unoriginated thing, immutable, universal, timeless' (page 4). Verily the mathematicians, logicians, and philosophers are the mystics of the twentieth century: Future thinkers could well illustrate our follies by making a judicious collection of writings on 'The absolute Truth of 2 + 2 = 4.'

35) Formal logic is one pole of logical theory, but by no means the whole of it. The effort of many logicians has been to identify logic and formal logic, and to resent any inquiry into the relation of formal logic and non-logical reality. The 'resistance' which instrumentalism has encountered bears startling similarities to that which the physician encounters in the analysis of a mental disease, and suggests the same psychological mechanisms. Instrumental logic and formal logic are actually complementary. Logic cannot remain upon the purely formal level simply because a level is mythological.

The analysis of meaning makes this clear. Symbol systems are not meaningless but their components are of a very general meaning: they mean any other symbol. The meanings of symbols can be defined in terms of other symbols and so on indefinitely, but *ultimately* definition in terms of symbols must give way to definition by pointing, — and then the passage from the symbolic to the non-symbolic realm has been made. However far apart the two realms may seem to be, they never can entirely separate. A purely symbolic realm is a contradiction in terms.

This important point can be brought out in other ways. The premises of a symbol system will always be found to contain such words as 'all' or 'is' or 'equals' which ultimately cannot be defined in terms of other symbols. The operations especially are clearly non-logical in nature. An attempt to state 'substitution' entirely in terms of other symbols will illustrate this insuperable difficulty.

The formal logicians have wisely avoided the problem of meaning for it makes a *purely* formal logic itself 'meaningless'.

That an entirely meaningless set of marks allows of no deductions and exhibits none of the characteristics of a symbol system can be shown by an

> example:
>
> Postulates: a * B k dl
> r fg M / F
>
> Operations: g H a
> R P sm
>
> From this set of premises nothing can be deduced by means of the operations. The 'all', 'is', 'substitute', and the like, which occur in most formal systems give sufficient meaning to the marks to allow manipulation of them. At some place in every formal system will be found a bridge of meaning to a world beyond the formal system, or else we are left with a set of marks with which nothing can be done.

36) Since meaning involves an organism, logic is intimately and inevitably connected with behavior. Logic is only possible because of the existence of behavior which involves the functioning of symbols, and represents a complex development of such behavior.

The use of symbols antedates the existence of a consistent set of symbols. Logic in the formal sense then arises out of a larger symbolic stage just as this in turn arose out of a state in which there were no symbols. There were problems and the solution of problems long before Aristotle did his work. The Aristotelian logician is often amazed and delighted to find the 'common man' thinking logically although ignorant of logical subtleties, but fails to recall that Aristotelian logic generalizes certain aspects of the thinking of the common man. This logic aims to be both formally consistent and at the same time the norm of fruitful reasoning in dealing with the world.

We have discussed the formal claim; let us now turn to the relation of formal logic to actual reasoning. Here it is obvious that the syllogism is only the petrified fossil of the actual temporal reasoning process. To reason in the face of a problem that spells life or death, the symbols used must have a precise meaning or reference in terms of the problematic situation. It is this connection with the non-symbolic that changes the reasoning from an affair of consistency to a matter of truth and error. Consistency allows past experience to be effectively brought to bear upon the actual problem but can never in itself solve the problem, — it is only a stage in the process.

A concrete example of the thought process will be of assistance at this point. A man is walking by a cemetery and suddenly there appears a given (an ambiguous stimulus) which brings the walking to a halt. This given is the 'thought-about'. Previously the man has been responding directly to objects with only a sporadic appearance of symbols. There now ensues a process of reflective thinking, thinking concerned with the interpretation of a problematic and ambiguous situation. The series of direct responses gives way to a delayed response. Overt behavior has largely ceased.

The situation as a whole, or portions of the situation, call out behavior which had occurred in similar situations. Thus vocally or sub-vocally the word 'cemetery' appears, and calls up the memory of 'ghost' as a temporary label for the ambiguous stimulus. Imagery may then fill out this stimulus so that the man thinks or says 'it is a ghost'. This stimulus calls out various responses, the nature of which depends upon the person. Suppose the man runs on down the road. The act of running may call out the word 'coward' and this in turn may stop the running. Or the given now labeled 'ghost' may not have moved, and this may raise a doubt as to the past interpretation. Perhaps another given has called out the symbol 'tombstone', and this in turn the symbol 'light'. A new interpretation of the thought-about is made in symbolic terms: 'that is only a light'. This calls out the behavior connected with this symbol in the past. The man looks around for a source of light, and finds one. He is now more sure of his interpretation and walks cautiously toward the 'light'. But he now notices that the supposed 'source of light' is no longer present, — and the original stimulus has again become ambiguous. He stops his advance. His foot strikes something and he picks up a 'stone'. Perhaps the thought-about is also a white stone. He notices that it is very low and may be on the ground. He walks toward it and the last interpretation proves correct. He throws the stone to one side, and goes on his way — whistling. The delayed response has been terminated; experience has again become largely non-symbolical.

37) There are many things to be noted in the process of reflection just described in a simplified form. In the first place the whole process can be stated in terms of unlearned behavior, substitute stimuli, and symbols. The distinction between what is thought about and the thought process is very clear. Past experience is continually operative and furnishes the only basis for interpretation. The man is 'free' in such a situation only to the degree that his past experience is available. There occur periods in which certain experiences are expected as the result of past experience. The various interpretations offered are accepted or rejected according to their agreement with the actual experience obtained. Truth and error are components of the reflective process. The problem is to find the nature of the stimulus that is ambiguous, so that it becomes unambiguous and a stimulus to direct action. The finding of such a stimulus terminates the reflective process.

The reflective process is the knowing process; knowledge is the product of the knowing process. Knowledge is one aspect of the symbolic level, — it is a result in terms of symbols of the interpretation *by* symbols of some ambiguous given. Givenness or experience at large is not a knowledge affair, nor is the feeling of familiarity with certain given a case of knowledge, — for direct response to a given that is unambiguous is not a knowing of that given. Even the introduction of symbols does not necessarily mean a knowing process, for symbols may merely label something that is unambiguous, as in the judgment of perception, or may just 'happen', as in reverie. It is only in the reflective process that we find the knowing process.

The result of a knowing process is often expressed in a symbolic summary. Thus the man of the example 'knows that the thing is a white stone'. Science is spoken of as being 'a large body of knowledge'. In man this accumulation of knowledge has become so great that experience is often interpreted as a case of knowledge. Through past experience one can apply some symbolic summary of a knowing process to almost every given that appears. Experience and knowledge tend to become identified in the common man as well as in the philosopher. And in the same way the distinction between the thinking process and the thought-about tends to be lost sight of. That these identifications are not valid can be seen by studying a problematic situation. Knowing and knowledge are achievements at the level of behavior involving symbols.

A word as to the universal or the essence may not be out of place. A symbol may have many meanings, or better, the same event may function as many symbols, and thus refer to many dissimilar given. In this case there need be no connection between the various meanings. A symbol may also refer to many things of the same sort, such as to other symbols or to all those objects we call trees. Such symbols are universals, that is, symbols which apply to many things of the same sort, the test for sameness lying partly in the calling out of the same response and partly in the direct experience of 'similar given'. The universal can in no sense be given a metaphysical status. A symbol may apply to only one given, or to similar given, or to relatively constant relations among the given, or to all given, or to all possible given. The difference between a proper name, the symbol 'chair', the categories of logic, and the concept of 'reality', is not a difference of metaphysical status, but a difference of the degree of generality in the application of symbols.

> The general agreement of this view of knowledge as arising within experience with Dewey's account can be brought out by a single quotation: "...the immense importance of knowledge experience, the fact that turning presence-in-experience over into presence-in-a-knowledge-experience is

the sole mode of control of nature, has systematically hypnotized European philosophy since the time of Socrates into thinking that all experience is a mode of knowing, if not good knowledge. When water is an adequate stimulus to action or when its reactions oppress and overwhelm us, it remains outside the scope of knowledge. When, however, the bare presence of the thing (say, as optical stimulus) ceases to operate directly as stimulus to response and begins to operate in connection with a forecast of the consequences it will effect when responded to, it begins to acquire meaning — to be known to be an object." *Creative Intelligence*, page 48.

It is only necessary to add that when a thing begins to function in this latter manner, it has become a symbol. The ability to foresee consequences depends upon the functioning of symbols. The future enters by the door of the past when a natural event that is a substitute stimulus evokes the memory of that for which it is a substitute. Symbolism aims to supply the technique of the reflective process which the pragmatic movement has so well emphasized.

38) The contrast between the actual reflective process and the syllogistic process to which it may later be reduced is enormous. The difference is as great as that between life and death. While relevance to an existing problem is essential to the reflective process, consistency is the characteristic of the formal presentation. Nevertheless there is a very definite reason why Aristotelian logic so long commanded the center of the stage: it is a non-temporal generalization of the temporal reasoning process. The syllogism reveals rich blood if related to the empirical behavior situation.

In the reflective process the premises are really postulates. Past experience is tentatively summarized in the major premise, and the ambiguous stimulus is tentatively interpreted by the subject of the minor premise. This latter either calls up something from past experience or else is found in connection with some other element in the situation. In this way the middle term appears and recalls other similar experience in connection with this element. Thus the major premise emerges. The middle term represents some common element in both past and present experience. The more consistent and orderly the representations of past experience, the more easily and effectively such experience can be used in the present, — and this is the value of a high development of the formal stage of consistency. The conclusion is the tentative interpretation of the present ambiguous stimulus in the light of past experience. This conclusion must then be tested in the light of further experience. If it does not hold for this further experience, the ambiguous stimulus is again tentatively interpreted and the process of reflection repeated until a satisfactory conclusion is found. In the actual temporal process of reasoning there is nothing certain to begin with, except the presence of the ambiguous stimulus or situation. The process is not from certain premises *to* a certain conclusion. *Both* the premises and the conclusions are tentative and are confirmed simultaneously when an interpretation (predicate expressed in symbolic form) of the ambiguous stimulus (the logical subject) is reached which allows behavior to again proceed overtly and directly.

39) Since symbol systems have been declared neither true nor false when considered as a whole, it is necessary to consider the problem of truth and error. Though symbol systems as a whole are neither true nor false, some are much more applicable to the non-symbolic portions of reality than others. The actual system that is used in any particular situation depends upon many factors, all of which center in the symbolic training of the person. Truth is independent of the particular system used.

In terms of the past discussion truth must be found either in the non-symbolic realm, in the symbolic realm, or in the relation of the symbolic and the non-symbolic realms.

The mystics and the intuitionists tend to identify truth and non-symbolic experience, and they become impatient with the symbolic net which keeps them from 'truth' or 'reality'. Rationalists and deifiers of authority find truth to lie within the symbolic realm. This accounts for the emphasis of 'clear and distinct ideas' and for consistency with other symbolic expressions, as in the coherence theory.

Truth can be more adequately comprehended as a relation between the symbolic realm and non-symbolic experiences. It is found in neither realm alone. The correspondence view of truth is a step toward the realization of this, but has failed to satisfactorily state the nature of correspondence.

For symbolism, truth is always a function of ideas or symbols in relation to the non-symbolic. There is no truth or falsity below the level of reflective thought. Truth is the confirmation of a prediction or prophecy of an experience by the future occurrence of the predicted experience, or, as regards the past, by evidence of the predicted experience. Falsity is the non-occurrence of the symbolically predicted experience. The correspondence is between a prediction in symbolic form and the confirmation or rejection of the prediction in non-symbolic terms. Prediction may be made as to what will be experienced with other symbols — such as to what will be found on a certain page — but in this case the marks in the book function non-symbolically.

This account throws light on the copy theory and the satisfaction theory. If the prediction is that one thing will copy another, then copying is relevant;

if the prediction is that satisfaction will be felt under certain circumstances, then satisfaction is relevant.

If copying and satisfaction are not predicted they are irrelevant to truth and error. Only what is specifically predicted has a place in the determination of truth and error.

Truth, like knowledge, takes on a static aspect. Some statements of experience or givenness have been confirmed so many times that they are labeled 'true' even when no confirmation process is going on. Such predictions are the 'truths'. Often the confidence placed in these truths is unwarranted and then they are hindrances rather than helps. Doubtful cases must always be referred back to the rest of experience for confirmation or rejection of their truth claim.

Two objections may be made to this view: that it does not hold for the past and that it is a test for truth without constituting truth. Statements as to the past must be verified by going to libraries, looking up books, and in doubtful cases, tracing back the search until a record is found of someone to whom the happening was 'given'. The reference to experience is still there, even if to a past experience which has been preserved by an expression in symbols. The often made statement that truth is tested by experience but not dependent on that test depends upon the ability to imagine a confirmation or rejection without actually carrying it out. The statement is made that the prediction is either true or false as soon as it was made, irrespective of verification or rejection. But this depends on imagining an instantaneous or 'collapsed' verification or rejection, — a capacity which depends on the fact that one has in the past gone through the actual process. There is no essential difference in principle between going through the process and imagining the process as having been instantaneously gone through. A statement that could not even be imagined as rejected or confirmed by experience could hardly be called true or false, — and the origin of imagination in the actual process must not be lost sight of.

> Mere satisfaction produced by some belief has nothing to do with the truth claim unless the satisfaction was itself predicted. As Nietzsche has said in the *Genealogy of Morals*, part 3, section 24, "... a strong faith which produces happiness causes suspicion of the object of that faith, it does not establish its 'truth', it does establish a certain probability of — illusion".
>
> Dewey has clearly stated his position on the place of satisfaction in truth: "... even the slightest concession is, I think, non-pragmatic unless the *satisfaction is relevant to the idea as intent.* Now the satisfaction in question comes not from the idea as *idea*, but from its acceptance as *true*. Can a satis-

faction dependent on an assumption that the idea is already true be relevant to testing the truth of an idea?". *Essays in Experimental Logic*, page 322, note. (The first set of italics is not found in the original).

The following quotations present the fundamental issues in regard to the problem of truth in an amusing and enlightening way. Some philosophers still believe that they speak from a 'higher' realm than that of science. The material is instructive for showing the result of failing to separate consistency and truth.

1) "Those scientists who aim at logically exact conceptual connection do not suppose that their theories are at the mercy of what, for them, is looked upon as an inferior level of experience — the experiences of the senses; nor do they feel elated or perturbed if the theories do not 'agree' with the deliverances of sense-experience. If their theories are logically consistent and their conceptual scheme coherent, they are satisfied; they have all the reality and, they may even say, all the 'truth' they want... Hence, for example, it seems rather naive to suppose that the logical validity of the connected system of mathematical concepts constituting the mathematical theory of relativity can possibly be decided and its fate determined by the aid of the somewhat trumpery devices of telescope and photographic plate." J. B. Baillie, on pages 39 and 40 of Muirhead's *Contemporary British Philosophy*. While the consistency cannot be tested in this manner of trumpery devices, the general relevancy of the system to the non-symbolic world and the specific predictions made with it as a basis can be so tested. As Einstein has said of his own theory.

2) "If the displacement of spectral lines towards the red by the gravitational potential does not exist, then the general theory of relativity will be untenable." *Relativity*, page 159, English translation. Truth involves going beyond the conceptual system as Einstein well recognizes: "The concept of 'true' does not tally with the assertions of pure geometry, because by the word 'true' we are eventually in the habit of designating the correspondence with a 'real' object; geometry, however, is not concerned with the relation of ideas involved in it to objects of experience, but only with the logical connection of these ideas among themselves." Page 2 of the same volume.

40) The preceding statement of logical theory has aimed to view logic and mathematics as highly complex developments of the symbolic realm, and hence ultimately as developments of behavior involving the presence of symbols. In the logic of symbolism both formal logic and instrumental logic find complementary places.

The key to the discussion has been the distinction and relation of the symbolic and the non-symbolic portions of experience or givenness. Knowledge and truth were presented as falling within experience and arising out of the functioning of symbols in the interaction of an organism and its experienced world, and not as bringing a chasm between the experienced world and a transexperiential reality. The epistemological problem is completely avoided in logical theory. The general falseness of that problem will be dealt with in the discussion of experience or givenness and reality.

PART 5

GIVENNESS AND REALITY

"Immediate empiricism postulates that things — anything, everything, in the ordinary or non-technical use of the term 'thing' — are what they are experienced as...we have a contrast, not between *a* Reality, and various approximations, or phenomenal representaions of Reality, but between different realms of experience."

Dewey

"All thing flow; nothing abides."

Heraclitus

"The *world* is precarious and perilous. ... Our magical safeguard against the uncertain character of the world is to deny the existence of change, to mumble universal and necessary law, the ubiquity of cause and effect, the uniformity of nature, universal progress, and the inherent rationality of the universe. ... But when all is said and done, the fundamentally hazardous character of the world is not seriously modified, much less eliminated."

Dewey

41) The previous pages have suggested but not solved certain problems fundamental to an adequate account of symbolism. The very word 'given' rightly suggests something that is given *to* some perceiver, and this demands a treatment of the nature of the perceiver and its place in reality. Certain pages of the discussion have assumed a naturalistic world in which givenness arises, without as yet justifying this assumption. In fact the status of givenness has as yet not been raised: is it subjective, or illusory? Does an account in terms of givenness lead to solipsism by identifying 'my' givenness with reality? Does the placing of thought — and hence truth and knowledge — within givenness destroy all bridges which lead beyond givenness? Is givenness an appearance of something more real, or a part of reality, or all of reality? What in short *is* the relation of givenness to reality?

> The development of this part of the essay is heavily indebted to the ideas of Mr. Mead, — ideas which as yet are not available in written form. Although the approach is quite different, Dewey's *Experience and Nature, Influence of Darwin on Philosophy*, and the *Essays in Experimental Logic*; A. W. Moore's *Existence, Meaning, and Reality in Locke's Essay* (particularly the latter portion); and James' *Essays in Radical Empiricism* present somewhat similar views of reality.

42) Since the discussion, involving as it does fundamental philosophical issues, is certain to be complex, it is advisable to point out five central themes around which the exposition will turn:

1) A recognition that mind is an aspect of givenness prevents givenness being described in mental terms.

2) A recognition that the organism as perceiver is, when given, on the same status as other given prevents the isolation of the perceiver, and the unbridgeable chasms which follow such isolation.

3) The very existence of language renders any form of solipsism untenable, and establishes the fact of many centers of givenness.

4) Certain experiments within givenness require the recognition of 'existents', and prevent any specific set of given being identified with reality.

5) Though reality is not exhausted by any specific givenness, any specific givenness is 'real' and not an appearance of something more real, — reality, in short, is all actual and possible givenness.

43) The factual basis for the epistemological problem and the clefts between soul and matter, mind and body, appearance and reality, lies undoubtedly in the very real difference between non-tactual and tactual givenness and between symbolic and non-symbolic givenness. The domi-

nance of the speech centers in man's symbolic activities and the location of the senses of sight and hearing give rise to the feeling that the mind is in the head. This feeling is accentuated by the presence of emotions and images which can be given no specific spatial location. The past inability to specify this felt difference lead to the sharp separation in kind and the ensuing philosophical attempts to bridge this unnecessary chasm.

Historically, experience has been considered as subjective, — as located within a 'mind'. Truth and knowledge then referred to the attempt to break through experience to the 'real' world beyond. Since this other world could not be experienced it could not be used as the test for statements made about it. So reason was forced to find some internal test for truth, such as coherence with past truth, or 'clear and distinct ideas'.

Once let it be realized that mind refers to the function of symbolizing and not to some entity which contaminates or contains the contents of the world and the situation changes completely. Givenness or experience can no longer be called subjective or mental or conscious for these terms refer to aspects *of* givenness. Mind no longer is a dark recess out of which thought drags itself; thought no longer creates its objects or tries to break through experience: mind and thought are portions of experience functioning as symbols of other portions. And since symbols always occur in connection with behavior, mind may be defined as the locus of givenness in which future consequences are acting through symbols as stimuli to present action, the sequence of symbols in such a process constituting thought. Since givenness includes more than thought and mind, the test for truth may now be found within givenness in the confirmation or refutation of a prophecy.

A deep realization of the fundamental importance of the tactual given should complete the dissolution of the view that givenness is a subjective complex of our 'ideas'. Mind is an aspect of givenness; givenness is not *in* a mind.

> The notion that experience is subjective and synonymous with thought is the key to the classic problems and answers of classic philosophy. The treatment of mind has come to be the central philosophical problem. Even present day thought has done very little toward a satisfactory treatment of mind, and it is not surprising that the classic thinkers were weakest at this point. Once grant a difference in kind between the psychical and the physical, and allow experience as a whole to be treated as psychical, and all the conventional problems arise. Reject such assumptions and the whole aspect of philosophy changes.
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> The paradox of English empiricism is an excellent example of the

> strategic position which the problem of mind commands. It is surely paradoxical that a group of thinkers whose whole aim was to build a common sense naturalism and realism should end in a subjective idealism. The result was due to an uncritical acceptance of the 'ivory tower' view of mind which had dominated earlier thinkers. Experience is put in the 'mind' and contact with an external world is rendered impossible. Hume himself finally comes to admit that mind is a bundle of perceptions but fails to see that this completely overthrows his original premise that perceptions are in a mind.
>
> Thus the hopes for an adequate naturalism were needlessly disappointed. It was James' conception of a radical empiricism that inaugurated a host of attempts to accomplish the task that English empiricism failed to accomplish. The treatment of mind which a radical empiricism demands will in time completely alter conceptions of the nature of philosophy and its problems.

44) A realization of the democracy of the given as regards reality claims (though not as regards importance) avoids falling into solipsism, and furnishes a convenient point around which to center the discussion as to the nature of the perceiver, and the place of the organism in the account of reality.

Experience reveals no perceiver on a plane of reality different from the plane of that which is perceived. There is no need of introducing a perceiver in any metaphysical sense: things are simply 'there' and 'given' and it is no more mysterious that they are 'self-luminous' and self-supporting than it would be if they were illuminated by awareness, sustained by judgment, and constructed by some absolute mind. Givenness is a fundamental fact while a metaphysical perceiver is no fact at all.

Experience does however reveal the factual basis for the notion of a metaphysical perceiver: the organism. The given is always given 'to' an organism or portion of an organism. As we shall see later, the organism may or may not be given, but when it is given it is on the same plane of reality as other given. The organism is the only perceiver which experience reveals.

Experience also reveals that the organism has a peculiarly important place among the given. It is simply a fact that whenever there is *any* given some organism can always be found in the vicinity. Stars are often given without books or gloves being given, but neither stars nor books nor gloves are given without a living organism as a focal center. Often this organism is not in itself given, but search will always reveal its presence. Givenness changes and varies with the motion, position, and condition of this focal organism. Given cluster around an organism and are said to be given *to* that organism or to some portion of it. The terms perceiver and perceived refer to this relation of the given to an organism.

It is convenient to call such a relation of organism and givenness a 'perspective'. The organism labeled 'mine', together with the surrounding given, is called 'my' experience. Such use of terms refers to the fundamental feature of the perspective and does not give the perspective any taint of subjectivity, though it may give it a degree of exclusiveness. The term subjective refers to the non-tactual portions of a perspective. A perspective is not 'mental' for the mental arises *within* the perspective upon the emergence of symbols. The perspective as a whole is not mental or subjective.

The recognition of the doctrine of perspectivity has taken many forms.

Perhaps it is not too much to say that modern relativity in physical theory grows out of the realization of the presence of an observer wherever there is an observation. The rate of motion, the path of the moving object, the length of the object, and so forth, are all relative to the status of the observer. As there is no evidence of an absolute observer, the Newtonian absolutes have had to go, since they arose through failure to realize the relativity to an observer. It is significant that physicists do not regard relativity to an observer as an indication of the 'subjectivity' of the observed. Such is also the contention of this paper.

The doctrine of perspectivity is probably the basis for the idealistic philosophies. Idealism has generally accepted 'mind' in a very uncritical manner as identical with experience, but the recognition that experience always has a focal center by no means demands that experience is mental. The realists on the whole have admitted this. Whitehead has a 'percipient event' for the focus of a perspective which in no sense contains the perspective.

The ego-centric predicament in contemporary philosophy can also be interpreted as a recognition of perspectivity. As Perry says "No one can report on the nature of things without being on hand himself." *Present Philosophical Tendencies*, page 129.

Such an interpretation does more justice to Berkeley than does the bare classification of him as a 'subjective idealist'. In the *Commonplace Book* Berkeley admits that mind is a congerie of perceptions, and that there would be no mind if there were no perceptions. May he not have meant by 'in the mind' that reality only appears in perspective and to some percipient? His attack on the notion of material substance would indicate this. Within the perspective Berkeley is decidedly realistic in his treatment of the world. The conventional interpretations of Berkeley are by no means satisfactory.

Russell has developed an interesting theory of reality on the basis of perspective which he defines in the singular as "a view of the world from a given place". *Analysis of Mind*, page 101. Though he tends to fall into an atomism of perspective, the whole book bears directly upon the problem of this essay. It is one of the few serious attempts to unearth the meaning of mind.

> Dewey's use of 'experience' includes the notion of perspectivity: "And if we are asked why not use a general objective term like 'world' or 'environment', the answer is that the word 'experience' suggests something indispensable which these terms omit: namely, an actual focusing of the world at one point in a focus of immediate shining apparency." *Essays in Experimental Logic*, page 7.

45) The whole essay up to the present has been concerned largely with the analysis of the perspective called 'mine' and the reader was directed to 'his' perspective or experience for acceptance or rejection of the account. It is true that these other perspectives have so far only been assumed. The aim of the present section is to justify this assumption. The reader must pardon for a moment the use of the personal pronoun until the right to 'impersonality' has been established.

Other organisms appear in 'my' perspective. Perhaps they are centers of givenness, but perhaps they are not. What shall be the test? Are they only in my perspective or am I also in theirs? I experience no images or emotions clustered about these organisms as I do about my own.

There is, however, a startling similarity between my organism and the other organisms. This extends not only to structural details, but also to very complex kinds of behavior. I find that they respond very much as I would under the conditions. They read these marks that are symbols to me and answer in a way that convinces me that the marks are also symbols to them. Further, I can speak to them and they can point out the same objects that I mean by my words. If I am still unconvinced, I can analyze the meaning of symbol in my experience and then devise tests which will show the presence of symbols. Under these test conditions I observe behavior which I can only explain by the functioning of symbols. I am compelled to admit all that the symbol implies: givenness, thought, meaning, mind, and idea at some organic center. There are then other perspectives besides my own and reality is not exhausted by what is given to me.

Language, in short, is the bridge between perspectives. The very nature of language symbols demands the existence of two or more perspectives. The fact of reading and talking is inexplicable on any other view. The possibility of stating and arguing with others about solipsism constitutes the refutation of that position. The existence of language symbols demands that any theory of reality be able to account for a plurality of perspectives.

46) There are many other considerations which support this conclusion in favor of a plurality of perspectives, and the view that givenness clusters

around organic centers without being made subjective thereby.

That all experience is not shared may be an 'accident' and may involve philosophical difficulties, but it assuredly is a fact. No one seriously believes that his own experience exhausts reality, or that all his experience is shared *in toto* by other persons. The fascination of biographies, of conversation, of travel, of wide reading, and the like, attests the quickening of life that comes by widening one's experience by contact with fellow players in the adventure of life and death. Conversely, the demand for 'expression' implies the existence of experiences which one is trying to *make* sharable.

These 'private' experiences are proved by the existence of symbols. This can be further verified. Suppose one organism sketches an image which appears in his field of givenness. This can then be passed to another organism and the existence of similar given in the second perspective established. Or one can watch a person who is sleeping, and be utterly unaware of the dream panorama which is being unfolded and which can be described by the sleeper upon awakening.

Non-tactual given clustered about some organic center are private or subjective, and relative to that center, but they are not for that reason mental. Relativity, as Mead has insisted, does not necessarily imply the subjective or the mental. Non-tactual given are subjective in the sense that they are not sharable, but this privacy in no sense makes them unreal or mental. As given they are on the same level of reality as all other given.

47) In addition to the non-tactual given which require the organism as a condition for their existence, there are the tactual given which while relative to the organism, do not require the organism as the condition of their existence. It is convenient to call those things which are a condition of their own givenness 'existents'. All given exist at the moment of givenness, but only the tactual given or 'existents' have an existence beyond that of their immediate givenness. An object in an hallucination exists during the period of givenness, but is not an existent since it is not a condition of its own givenness. A person, on the other hand, is an existent for it is among the conditions for its givenness at any organic center. No non-tactual given is an existent; tactual given and existents are identical, in the waking life at least. The test as to whether any given is an existent or not depends upon whether it can be approached and handled, and whether it is a condition for its own givenness. The two aspects of this test are really different ways of approaching the same problem: the first aspect has been considered; the second approach demands attention at this time.

Suppose I take two organisms which appear in my perspective, test them for symbols, and then build up language symbols between the two organisms and myself. I hold up some object that is tactual given for me, and B announces that the object we are both touching is also a tactual given for him. A looks at the object, then away from it, then at it again, and so on. By means of our common language he can indicate when the object is given to him. B and I find that the object as given to us is not affected in the least by whether it is given to A or not. The object is an existent to A because it is a condition for its givenness in his perspective. A and B make a similar report when I look or do not look at the object. Any number of observers can be brought in to confirm this result, and cameras can be turned on the object when the object is not given to any observer. This situation is very different in the case of a dream or image or emotion. The observers can now make no reports at all if these non-tactual given are 'mine'. There is no reason for giving these non-tactual given a reality not exhausted by their present givenness. They are real only within the perspective of which they are a part. They are not conditions of their own givenness for they simply emerge under certain complex conditions. They are not existents.

Existents, on the other hand, have a reality not exhausted by their status of givenness in any perspective. They are in fact necessary conditions for such givenness.

48) Reality appears at organic centers as givenness. In other words, reality appears in perspectives. At this point two fundamental problems arise: the problem of the relation between perspectives and the problem of the relation of perspectives to reality.

Just as all given which compose a perspective are on the same level of reality, so are all perspectives equally real. There is no basis for assuming an absolute or ultimately real perspective from which all other perspectives are to be regarded as appearances. Perspectives are equally real and not related in any hierarchy of appearances of 'ultimate' reality considered as an absolute perspective.

Since the perspectives are nothing aside from the given which the term signifies, they must not be considered as separate entities. This would erect as unnecessary a gulf as the customary epistemological chasm. It has already been shown how symbols may function to connect perspectives of different organisms, or even of the same organism at different times. The direct relation of perspectives comes through the tactual given.

The non-tactual given have a place in one perspective only; in some sense the tactual given are common to various perspectives. Existents do not have their reality exhausted by any specific givenness. Perspectives are primarily canalisations of the world of existents, due to the nature and position of the focal organisms. A perspective is a perspective *of* something and hence cannot be made into an ultimate element. There is no problem as to how to make a world out of isolated perspectives because perspectives are not isolated but are related by being perspectives of the existent world. That the same existent is functioning as a condition of givenness in two or more perspectives can be verified by having the organisms approach the tactual given in question. The organisms will be observed to converge toward the same spot in space and ultimately to feel each other in contact with some source of tactual givenness. This, coupled with the conversation that is simultaneously taking place, is a convincing test that some of the given of various perspectives come from a common source that is in some sense more than the immediate given of which it is a condition.

While language is a bridge between perspectives, the world of existents is the common matrix. It is through this matrix that perspectives are related to each other, and related to a reality not exhausted by any specific perspectives.

49) The introduction of existents may at first sight seem to lead into a substance-attribute view of reality. The existent may seem much like the thing in itself (the 'real' thing) of which the various perspectives are 'appearances'. The very structure of language aids such a view since it is almost impossible to avoid referring to *the* thing or *the* existent or *the* reality. Such usage leads one to demand *the* nature of the thing as contrasted with its appearance.

The notion of *the* thing is of a linguistic origin. It depends upon the fact that although an object is continually changing, the rate of change is slow enough to preserve a similarity sufficient to call out the same symbol. The permanence in change depends upon the constancy of response and not upon a permanent something in the object. We call something the 'same thing' when we can still react to it in the same manner, or when the change is gradual enough to allow the response to gradually adjust itself. The continuity in the process of change gives a continual conditioning process so that the same symbol carries over the entire sequence of events. The sameness of the symbol is read over into the non-symbolic world of change. Not only is absolute truth a function of the symbolic realm, but likewise the notion of absolute permanence. The confusion of symbols with things is the most dangerous error of the thinker. The errors of a false or confused symbolism are certain to be reflected in theories of reality.

There is no reason for giving existents the status of things in themselves which are unknowable except through their appearance. That is, the assumption of *the* thing as an inner core of the 'passing show' is unnecessary, and is due to the use of the same symbol over a process of change, together with the predominance of the contact experiences. Since touch gives the test for the stable aspects of the world, it comes to be set up as *the* reality of which everything else is an appearance. Color is often assigned a subjective place while the 'real' world is given over to bodies in motion, but since all the given are equally real, color and touch are on the same plane of reality. Similarly there is not *the* penny which is round: the round penny is the contact penny: the colored and elliptical penny is equally real under the conditions of distant observation. There is no one 'real' penny which would appear under some absolute perspective. Such a notion is not warranted by the facts of experience.

Existents must not be considered as unchangeable and unknowable substances of which we have only the appearances. Though not exhausted by any specific givenness, there is no reason to assume a hidden core of reality which never could be given. The existent is nothing beyond all possible givenness of which it is the condition. It is truly revealed in givenness and completely revealed in all possible givenness.

> This view of existents is very similar to Russell's view of the physical object: "Instead of supposing that there is some unknown cause, the 'real' table, behind the different sensations of those who are said to be looking at the table, we may take the whole set of these sensations (together possibly with other particulars) as actually *being* the table." "I suggest as a first approximation that these particulars, together with such correlated others as are unperceived, jointly *are* the table and that a similar definition applies to all physical objects." *Analysis of Mind*, pages 98 and 99.
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> Dewey has likewise definitely rejected the notion of *the* real thing which underlies the various experiences. *Creative Intelligence*, pages 41 to 45.
>
> Whitehead's use of 'event' as the unit of reality as contrasted to the 'objects' which appear in experience comes very close to a substance-attribute view of things. The event practically becomes a thing in itself which is never experienced. In contrast to such a view the present approach would demand that 'event' itself be given an experiential content, and would deny that the nature of an event can never be exhausted in experience. It is probable that the event plays somewhat the place in Whitehead's view that the existent plays in this essay. No 'hidden core' however is necessary to satisfy this function.

50) The generalization of the preceding section leads directly to a view as to the 'ultimate' nature of reality in so far as such a problem has any meaning in a radical empiricism.

Reality is all possible and actual givenness. The nature of the universe, or of any portion of it, is exhausted by all possible givenness to which it can give rise.

Reality and universe are simply the symbols which generalize the stuff which experience or givenness reveals. The stuff of experience is the very stuff of reality. Since all terms get their meaning in experience, the empiricist can never use 'reality' as different from givenness or experience. Though reality need not be exhausted by any specific givenness, it cannot ever be for the empiricist something which transcends all possible givenness. There can be no noumenal realm in contrast to a phenomenal realm: permanent substance, things in themselves, metaphysical perceivers, synthesizers, and knowers, have no place in the empirical world view. Things are as they are experienced as, and such experience is 'ultimate'. To be is to be capable of being perceived.

The perceiver and thought are no exceptions to this view of reality, — their nature also is what it is experienced to be. The organism is on a par with every other existent in this respect. There may theoretically be other centers of givenness besides the organisms we know, and their perspectives may be different from ours, but the reality of such perceivers would also be revealed in givenness. There is no empirical basis as yet for assuming other types of perceivers, and it may be true that there are no other centers of givenness than those that we know. In either case the view of reality here presented would be adequate.

In this view of reality there can be no gap between thought and reality. There is no epistemological problem as such. The problem of thought, like that of everything else, must be revealed by givenness. Previous pages of this essay have tried to go to experience to find out what thought is. The conclusion reached was that thought was the symbolic portion of givenness. In thought natural events function in a symbolic way. Thought has no problem of getting into contact with reality since it is *in* reality and a part *of* reality. Reality is much more extensive than thought or mind or consciousness, for these terms refer only to the symbolic portions *of* reality. Thought and reality can neither be equated nor metaphysically separated.

> It is believed that this view of reality contains the essential elements of both idealism and realism by admitting that reality can only be described in

terms of experience or givenness while still insisting that such description does not generate reality or reduce it to terms of mind.

The only quarrel with the idealist is on the uncritical use of mind and its identification with experience as a whole. The view of Bosanquet seems sound except in the above respect: "I do not doubt that anything which can ultimately *be*, must be of the nature of mind or experience, and, therefore, that reality must be ultimately conceived after this manner." *Principle of Individuality and Value*, page 135. The uncritical use of mental terms comes out in the failure to recognize the symbolic nature of thought and in the consequent reading of thought back into the inorganic world. On page 294 of the above book he claims that the "distinction between cognition and feeling or desire" is irrelevant. Thought thus is read out cosmically and an Absolute Mind is the logical termination of the process. Hegel is perhaps the greatest violator of an empirical treatment of thought. The symbolic realm has in Hegel swallowed up all of reality, which thus becomes essentially a thought system. Berkeley was on a much saner path, and wished consciously to avoid the pitfalls of language. Rightly rejecting 'material substance' he conceived of reality in terms of givenness, and since he felt that reality was greater than individual givenness, he brought in God as the focal center of the absolute perspective in which everything was immediately given. His attitude was sound but the introduction of an absolute perspective is unwarranted and unnecessary if potential givenness be recognized. There is no necessity of reality being entirely and completely given at any instant even though the notion of a reality which can never be given is denied.

The quarrel with realism from the standpoint of this paper lies in its retention in the thing in itself under the cover of a modern terminology. This retention probably arises from the demand for a world independent of man, together with the belief that immediate experience is mental or subjective. Substitute for this latter assumption the view that mind is part of and in an external and independent world, and it is hard to see the need for reality which can never under any circumstances be experienced. Sellars says of his view: "It is *realism* because it maintains that the human mind can build up knowledge about extramental realities; and it is *critical* realism because it holds that these realities cannot be presented to an immediate awareness, as naive realism inclines to assert." *Evolutionary Naturalism*, page 20. The basis for the view that we never directly experience physical reality lies in his subjective view of experience and in an inadequate notion of what mind and consciousness mean. "No physical existent is given. Even the percipient and knowing organism is not given.... We must not forget that *existentially* we are confined to consciousness. .. Perceptual data arise *in* the organism." The same volume, pages 49 and 51. "Psychical entities are, then, contents which arise in the synthetic brain." Page 317. Sellars ends with all the conventional problems on his hands and his aim of making explicit the philosophy of science is far from accomplished. He is another victim of the ivory tower view of mind, though he has changed the name from the 'mind' to the 'brain-mind'.

> Kant combines both of these extreme positions but in an unsatisfactory manner. He has a firm belief in a world of things in themselves and yet feels forced to limit knowledge to experience. The thing in itself plays an ambiguous role: its status varies from a mere limiting concept to the pattern of 'ultimate' reality. Hegel's amputation of the thing in itself was inevitable. Kant's limitation of knowledge to experience and the treatment of knowledge are interesting fields of investigation for a symbolic interpretation. The categories are simply very general symbols; the error lay in making them possibilities of experience. Kant started out with the valid distinction between sensibility and understanding, between givenness and thought about the given. There was thus experience that was not knowledge. Kant came to realize however that the universality and necessity which he sought could never be attained unless thought constructed its object. Hence the notion of experience that was simply 'given' was abandoned by the emphasis upon 'synthesis'. Experience as a whole became an affair of knowledge. The ground was then laid for the idealistic orgy which followed Kant. Kant himself always kept thought and existence separate, and his criticism of the ontological argument is sound. Had the earlier Kant been able to give a functional meaning to the distinction between sensibility and understanding, symbolism would have been by now an old story. Kant's demand for certainty and his essentially religious interest forced him along another road.

51) It may seem paradoxical to insist that reality is exhausted by all possible givenness, and yet that there was or may have been a time before givenness, and a time in which givenness may be no more. Reality is defined in terms of givenness and yet placed before givenness.

The paradox is lessened if one realizes that the difficulty arises from the fact that givenness as we have it requires the presence of an organism. As far as we know there is no perception without an organism and without something to be perceived. The material may be perceivable before organisms but there can be no perception before organisms arise. Since the organism is a condition for givenness or perception, there is no givenness before organisms, but there may be material for possible givenness before organisms, even though the nature of this material cannot be stated until it is given. The difficulty arises from the fact that we cannot shed our skins and become disembodied perceivers. That reality is only revealed in present givenness does not mean that reality is identical with present givenness. The fact that one can only describe reality by being in contact with it does not mean that one's contact with it is essential to the existence of reality.

The geological and astronomical past existed in the sense that if man had been there he would have experienced it. It is only on the basis of remnants of the past, which are now experienced, that we can reconstruct the past. In doing so we always place ourselves by means of imagination in the scene we are reconstructing. We can only describe the past in terms of how we would have experienced it had we been there. Similarly, it is only by means of the present and past that we can consciously invade the future, and imagine what experiences we would have if we were to be there. The reality of the past and future lies in potential givenness. A thing which can never under any circumstances become given does not exist and has no reality. In trying to conceive of such a thing one will always find that in imagination at least he has projected himself there as a perceiver. Only as potential givenness can there be said to be reality before or after actual givenness.

This view of reality finds a place within it for the descriptive pictures of the world which science offers, and shows that a radical empiricism may be radically naturalistic without being in any sense subjectivistic or solipsistic. The theory, in fact, harmonizes best with some form of an evolutionary or emergent naturalism. The admission of a time without givenness, then of a time with givenness but without thought or mind, then of a time in which there are both givenness and mind, and finally of a possible time in which there will again be neither, is in no sense paradoxical to a theory which defines reality in terms of actual and potential givenness.

> Questions concerning reality often take this form: what are things like when we are not experiencing them? Do they exist when they are not experienced? and so on. This seems equivalent to asking how things would be experienced without experiencing them. It seems nonsense to try to define reality in terms of a situation that never can exist. In such a case one is actually slipping oneself into the scene in imagination, and then conveniently forgetting this. For such reasons it has seemed advisable to reverse the ordinary approaches to reality and to define the real in terms of actual and potential given.
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> This was seen to be compatible with the view that there was a time when there were no perspectives. Perspectives and givenness come with organisms and are, in the main, canalisations of inorganic reality. It is only the non-tactual given which have no reality outside of the perspective. A recognition of this level in which there were no perspectives avoids the atomism of perspectives into which Russell falls. At times he seems driven to an 'objective space' but is reluctant to make such an admission. Dewey discussed this aspect of Russell's thought, on pages 293 to 296 of the *Essays in Experimental Logic*.

52) Many doctrines of reality belong more to a chapter on the theory of value than to the history of reflective thinking. In general that has been denoted real which completed the philosopher's adjustment to his world or served as a compensation for the actual adjustment. 'Reality' has in this way

come to be a highly emotional term, and the historical view of philosophy as the search for 'Reality' is better interpreted as a search for an adequate adjustment to the universe, and a phase of the 'biology of thought'.

Theories of reality may be classified as naturalistic or supernaturalistic (metaphysical) where naturalism stands for the interpretation of reality in terms of givenness, as this essay has done. The admittance of any reality which by its very nature transcends experience, or the claim that there *are* other types of givenness, constitutes metaphysics or supernaturalism as here used. In this sense of the term practically all past philosophies and religions have been metaphysical. The same remark may be made about much of scientific theory, which is still reflecting past supernaturalisms. The reduction of the world to 'matter' or 'energy' is just as metaphysical as its reduction to 'mind' or 'spirit'. The prevalence of such views warrants a word on the question of metaphysics. The essence of metaphysics is the application of words to transexperiential objects. These terms are supposed to have a meaning beyond that given to them by experience. The possibility of metaphysics depends upon the assumption that the meaning of symbols is not exhausted in experience. Such an assumption or view of meaning conflicts with the view of this essay which makes meaning depend entirely on past experience. Unless the opposite can somehow be shown to be true, the verdict must be that metaphysics grows out of a careless use of symbols, or rather is due to the use of substitute stimuli that are not symbols. In that case it is to be abandoned by critical thinkers.

The factual basis for past metaphysical flights is to be found in the unwarranted generalization from some aspect of experience, the cause of the specific generalization residing in the generating conditions. The introvert is particularly concerned with the non-tactual and mental aspects of experience, and with himself as a personality. He is prone to find 'reality' to be of the nature of mind and personality and to reduce the tactual aspect of experience to 'appearance'. The extrovert, on the other hand, is largely concerned with this tactual aspect of experience, and is prone to reduce the universe to 'matter', and to explain away as well as possible the qualitative and mental aspects of experience. This difference of personality is probably the basis for the separation into idealist and realist, vitalist and mechanist, introspectionist and behaviorist. A truly synthetic philosophy must admit that past philosophies contain factual elements, — but also that the history of philosophy — and indeed of all thought — is the history of unwarranted generalizations.

53) There is one caution in regard to a discussion of reality which a study of symbols enjoins: the existence of a symbol in no sense guarantees the existence of a corresponding *entity* in the non-symbolic world. The oneness of the symbol is entirely compatible with a plurality of things meant. A symbol may stand for a number of similar things, for a number of dissimilar things, for relations between things, and for whole situations, just as well as for a single thing. Failure to realize this has lead to the peopling of the world with a host of unnecessary entities, and constitutes the perennial source of all forms of Platonism, ancient and modern. We have seen the effects of such treatment in regard to mind, thought and consciousness. Similar metaphysical views have developed from the careless use of time, space, energy, matter, soul, and the like; by assuming that there was some entity which corresponded to the terms. Actually these are very complex symbols and demand a detailed study to find the situations to which they refer and from which they derive their meaning. The process is always one of finding the experiential meaning of the symbol, and very rarely does this turn out to be a single entity. The placing of symbolism within reality gives no warrant for confusing the symbolic part of reality with the non-symbolic parts.

54) The notion of a noumenal reality — and often the hunger for such a reality — appears in peculiar forms and guises. It appears for instance in a reversed form in reveling in the 'unknowable' and in the insistence of the 'eternal mystery' of the universe. These doctrines take on an emotional expression little short of religious. They arise out of a lingering belief in noumenal realities in conflict with the modern belief that we cannot *know* this aspect of the scheme of things. The result is often expressed in a form of glorified martyrdom, and in chants to the eternal mystery of things. The 'common man' raises questions as to why there is anything, or why things are like they are, or where things came from, only to give it up, and to admit that no one will ever know.

The contrast between such a view and the one of this essay is obvious. On this latter view there is nothing essentially mysterious or forever hidden from view. There is no unknowable, — only much that is unknown. There is no realm of eternal mystery, — only the fascination and appreciation of the subtlety and complexity of things. One is immersed *in* reality and a part *of* reality and not forever shut off from it. There is no need of a noumenal realm to support givenness from behind or of souls to light it up from the front. As to why there is anything or why this anything is like it is, it is pertinent to ask — as Spinoza did — why shouldn't things be and be as they are? Would it not be just as 'mysterious' for them to not be or to be different than they are? Why is existence any more of a problem than non-existence? And as to the origin of things, why is it necessary to assume an origin? Why not assume that the universe is actually infinite in time and space, that is, that however far back or out one could go as a perceiver, one could always go further? The universe would never begin for it always would have been. A universe that never began is no more mysterious than a universe that had a beginning. It seems even less mysterious, for if the universe began it either came out of nothing or out of something, and this in turn must have come either out of nothing or out of some third thing, on *ad infinitum*. Both alternatives seem more mysterious than to suppose that things always have been, and that things as they 'really' are are open to inspection.

55) The prevalence of over-generalization is nowhere more evident than in the predicates applied to reality at large, — predicates such as one, material, spiritual, meaningful, purposive, progressive, moral, hostile, beneficent, and the like. Reality or universe is a symbol for everything and is not itself a thing. 'It' must not be described as a thing but as a complex of interrelated things which are gathered under one label. The universe is neither in rest nor in motion for these are aspects *of* the universe relative to an observer, and by definition there can be no observer outside of the universe. Nor can the universe be considered as moving through time, for past and future are also relative to an observer. The notion that the universe is progressing toward to some goal is at best a hypothesis or assumption, based on the purposive nature of man made possible by the functioning of symbols. Rest, motion, and progession apply to aspects of the universe and cannot be universally generalized. The same remark is true of morality, immorality, beneficence, and hostility: these terms all involve evaluation by someone from some specific point of view. The universe can have no 'meaning', — for there is nothing else which it can mean. The confusion in all these common usages goes back to the consideration of the universe as an entity in virtue of the fact that the *term* universe is an 'entity'.

The real meaning of these various terms is to be traced back to the relations of human beings to the rest of the universe, and to the problems of adjustment that this relation involves. From the flux which appears with various degrees of permanency to men and women come both ecstacy and tragedy. The categories have been wrung from human joys and sorrows, and human hopes and fears. The very origin which gives these categories significance inevitably limits their signification.

PART 6

PHILOSOPHY AND CIVILIZATION

> "*All* the sciences have now to pave the way for the future task of the philosopher; this task being understood to mean, that he must solve the problem of *value*, that he has to fix the *hierarchy of values*."
>
> Nietzsche

> "The really vital question for us all is, What is this world going to be? The center of philosophy must therefore alter its place. The earth of things, long thrown into shadow by the glories of the upper ether, must resume its rights."
>
> James

56) The rather extensive treatment of the symbolic portion of givenness in the preceding pages failed to exhibit the richness of the non-symbolic realm and the intimacy of the connection of mind and behavior. An account of symbolism which neglected the luxuriant complexity of the realm of likes and dislikes, joys and sorrows, would be a misleading account. It is rare, even in the case of the professional knower, that experience is predominantly symbolical: for the most part life is carried on with an alternation of attractions and aversions, of consummatory and frustrated behavior. Mind penetrates and enriches these realms and the account of symbolism must be extended to include science and art, and fact and value. Such considerations will allow us to view philosophy as the widest and most general extension of the symbolic

process. To philosophize about philosophy, to see it in relation to value and fact, and to discover its place in civilization: — this will be the legitimate conclusion of our study.

57) In place of the highly emotional connotations which the term 'value' generally carries, it is necessary to give this term a specific meaning as used in a functional psychology. In the first place, value is widely confused with 'meaning'. Since meaning has been limited to signification in this essay, value will be limited to significance. The problem of value is the problem of finding the signification of 'significance'.

All behavior in relation to a stimulus is statable in terms of either positive or negative responses or in combination of these, where a positive response is one that tends to keep the stimulus given and to approach it, while a negative response is one that tends to withdraw from the stimulus and to render it inoperative. A positive response is pleasant and a negative response is unpleasant, — this is the biological basis of the feelings. An alteration or co-presence of these two types of behavior produces a mixed feeling tone. The apparent exceptions to this view — such as the 'pleasantness' while running from danger — seem at bottom to be resolvable into the general statement. The pleasantness in running from danger really lies in the *positive* response to a place of safety. Even the pleasant component in the approach to an object that will cause death is explicable, if one's ideals and character are being fulfilled by the action. In so far as the response to the stimulus in question is actually negative the feeling tone in unpleasant.

Some of the responses — positive and negative — to objects are unlearned or instinctive, but the vast majority of the positive or negative approaches to objects are acquired in the lifetime of the individual by means of the substitution of stimuli. Since the feeling and emotion depend upon the *response*, they are also called out by the substitute stimulus which calls out the response. This situation is called the 'conditioned emotional response' in psychological literature. It is in this way that most of the likes and dislikes of the individual are formed.

It is suggested that 'value' refers to any experienced stimulus which calls out a positive response. Anything that calls out a response that tends to approach the stimulus and to keep it operative — ruling out *other* stimuli which might make one approach a stimulus that in itself would not call out a positive response — is a 'value'. Tactual or non-tactual given, symbolical or non-symbolical given: — any of these may be a value and have significance. Any given which calls out a negative response is a negative value. Positive and negative responses may be connected up in the learning process with a great variety of stimuli — such as actions, paintings, and even the 'universe' — which in this way acquire value.

Chapter 4 of Allport's *Social Psychology* contains a suggestive theory of feeling and emotions. The two feelings, pleasantness and unpleasantness, are connected with positve and negative responses, and the first is made dependent on the stimulation of the cranio-sacral division of the autonomic nervous system and the second of the stimulation of the sympathetic portion of this system. The emotions are differentiations of the feeling due to stimulation from the proprioceptors in the somatic portion of the body.

Common philosophical treatments of value may be indicated by reference to volume 1 of Muirhead's *Contemporary British Philosophy*: Bosanquet talks of a 'world of eternal values' and makes "experience a revelation of the world of values" (page 70). He believes reality and value coincide (pages 70, 71, 72). In another work he stated "The world of reality is the world of values" and "It seems to follow that there can hardly be existence without some value". (*Some Suggestions in Ethics*, page 65). Bradley too seems to feel that only values are real (Muirhead, etc., page 195). Morgan believes values are independent of 'human folks' (page 305). Temple states that values are the sole reality (page 428), and Inge believes that there are no things without values which are assigned by God (page 200, 201). It is needless to remark that 'eternal and absolute values' can have no place in a biological approach beyond that of indicating the value of man to certain values of the past. Reference may be made to Prall's *A Study in the Theory of Value*, and to Kallen's article on 'Value and Existence' which concludes *Creative Intelligence*, for sane and penetrating treatments of value.

58) Value must be distinguished from valuation. There are values on the non-symbolic level, while valuation is always a process on the symbolic level. An animal may have 'values' ('likes') without knowing it. If the organism is capable of symbols it may label those stimuli which call out positive responses as values or may simply make statements such as 'this is a value' or 'I like this'. Such judgments are not valuations even though they symbolize or talk about values. Valuation is the application of the reflective process to the whole or part of givenness for the purpose of deciding on the value of the stimulus in question. Valuation takes place when value is in doubt. Reflection allows memory and anticipation to flood the present object and to see it in its complex connections — and a positive or negative value is the result. There may be reflection without valuation — such as in the attempt to control the appearance of a stimulus whose value is unquestioned — but there can be no valuation without reflection. Valuation is *one* way — though not the sole way — in which stimuli take on or change their value status. The reflective valua-

tion is so important in human affairs that it comes itself to have a positive significance.

Values in symbolic form are memories, hopes, and ideals. As hopes and ideals they are values not yet incorporated in non-symbolic reality. Part of the task of reflection is the transference of ideals — symbolic formulations of stimuli that would call out positive responses — into non-symbolic actualities. The successful architect, artist, inventor, or writer illustrates this actualization of ideal plans in the tangible world. Often however this actualization is impossible — and then a compensatory realm is set up in which the symbols take the place of the actual things in calling out incipient positive responses. An ideal realm is erected in which the thwarted positive responses attain some form of release. Much of religion, art, and philosophy has played such a compensatory rôle in past history. The emphasis upon the eternal and the supernatural has always arisen when the natural world no longer allowed of a satisfactory (positive) adjustment. When adjustment *to* the stimulus is impossible the only resort that remains is to explain away the resistance as 'unreal' and to set up an ideal world, in which the positive responses are possible, as the 'real' world. Values have then passed to the non-tactual and symbolic realm, while the material world has taken on a negative value. The nature of value is the same in both realms: value refers to those portions of givenness which call out positive or negative responses, the major values being connected with the major or prepotent responses.

59) Art objects exhibit the creation of a realm of stimuli intended to call out positive responses. The response — and hence the emotion — is controlled by controlling the stimulus. Since individuals have different histories, the same stimulus may call out both positive and negative responses in different individuals. The similarity of human nature and of the problems of adjustment account for whatever consensus of opinion prevails in art matters, but in no sense justifies the notion of 'absolute beauty'. Likes and dislikes have a history in terms of the learning process — and art is no exception to this phenomenon. The analysis of the art stimulus cannot be undertaken here, though it can be said that past esthetic theory has vastly overemphasized the analysis of the stimulus to the neglect of the response. An object is beautiful or sublime only in virtue of the effect it has upon some organism. Beauty then denotes a complex situation involving both a stimulus and a specific kind of response, and can be ascribed to neither alone. The attempt to relegate beauty to the stimulus and to rule out all psychological considerations is responsible for the notion that art must be expressed in the classic forms and

harmonies, and that modern art is on an unsound basis.

The art stimuli may either be stimuli which call out unlearned positive responses or may be substitute stimuli or symbols. The vast majority of art stimuli are of the substitute type. Pure art or formal art is largely composed of substitute stimuli and its devotees resent any search for 'meaning'. Program art and symbolic art aim definitely to have a meaning and thus to be composed of actual symbols. Though the art stimulus may be symbolic, this is by no means essential, for art is mainly concerned with the response and the accompanying feeling and emotional elements. Contemporary art is built upon the realization that the art stimulus need not copy the external world, and in fact need not have any 'meaning' whatsoever.

Art is part of the technique which man has evolved to make his environment more satisfactory and to enhance the significance of his existence. There is a biology and psychology of art as well as of all other activities. Very few personalities attain a complete rounded development which realizes their larger hopes and desires; very few beings enjoy for long the thrill of power and elation which comes at the attainment of the adequate adjustment of the conflicting factors. Most people have hopes and desires which remain unfulfilled. Art gives an environment to which a perfect, though temporary, adjustment is possible. For the moment a harmony is attained between the environment and the individual, for a moment all distracting and conflicting elements are removed, for a moment there arises the sharp thrill of fulfilled desires, harmonious functioning and resolved conflict, — this harmony after discord, this victory after struggle, generates the esthetic experience. Such an experience comes after any successful adjustment in which harmony is attained after struggle, whether it be a present problem that is met reflectively or a frustrated desire which finds release. The prototype of the art stimulus is found in the adjustments to natural stimuli which have led to consummatory responses. The resulting experience, by the principle of the conditioned emotional response, may be transferred to other stimuli, so that finally the esthetic experience may be called out without a conflict being solved then and there. Man, improving on physical nature, has developed stimuli which call out to some degree at least the desired responses. In the complexity of the learning process the appeal of the art stimulus becomes ever more subtle, but even in the art of the macabre and the morbid some desires are satisfied or some new height of powerful insight secured. Man insists upon conquering his own death and wringing exaltation out of his own misery.

The very fact that art is mostly non-symbolic stimuli makes it easy for art to appeal to unrecognized desires, and to become compensatory. The greatest art on the other hand is expressive of great moments and great dreams and is contrasted to the compensatory art. The first is an instrument in the conquest of, and the glory in, the world; the second is unable to meet the world and retires into the land of reverie. In any case the art stimulus can only be understood in terms of the adjustment process.

> Chapters 9 and 10 of Dewey's *Experience and Nature* should be read in connection with the material of this chapter. He has expressed the relation of art and adjustment in this way: "Objects are actually esthetic when they turn hazard and defeat to an issue which is above and beyond trouble and vicissitude. Festal celebration and consummatory delights belong only in a world that knows risk and hardship." (page 90).
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> Faure, *History of Art*, volume I, xliv, has expressed the same thought: "Art is a lightning flash of harmony which a people or a man conquers from the darkness and the chaos which precede him, follow him, necessarily surround him. And Prometheus is condemned to seize the fire only that he may light up for a second the living wound in his side and the calm of his brow."
>
> Nietzsche's ultimate attitude is that of the esthetician and this is basic to his thought (Zeitler, *Nietzsche's Ästhetik*, page 5). Nietzsche has insisted upon the positive and dynamic aspect of art and its relation to the biological process: "The essential feature in its art is its power of perfecting existence, its production of perfection and plenitude. Art is essentially the affirmation, the blessing and the deification of existence". *Will to Power*, volume 2, page 263 of the English translation. Ludovici's *Nietzsche and Art* develops the charcacteristics of such a 'ruler art'.

60) Religion is often represented as a force tending to conserve the values of the group. Individuals, singly or in groups, who have made a fairly successful adjustment tend to resist any disturbance of this adjustment, and to fear change. Religion, like morality, is originally an instrument in the attainment of group strength and solidarity and only becomes a private matter at a later date. The conceptions of the gods or God reflect the life of the people and their struggle for adjustment which is felt to be aided or hindered by outside powers. Primitive religions are not built upon the distinction between material and spiritual — a very sophisticated and questionable distinction, — nor upon a craving for immortality and future reward, but upon the demands for tangible things and earthly success. The 'otherworld' is in primitive times merely a glorified earth life, and not a life of an essentially different nature. The gods of this period are conceived in concrete terms and are essentially big and powerful men. The relation of man to God is not an ethical relation, but an

exchange of power and satisfaction. Primitive religion and magic are earlier manifestations of the same demand which produces science, — the demand to extend man's dominion over the hostile or indifferent march of non-human nature.

Religion is to the individual a means of adjustment to the universe. Its biological effect is very similar to that of philosophy, and religion in its corporate aspects may be considered as an institutional philosophy.

It is only at the end of a cycle of civilization when satisfactory adjustment to the actual surrounding world is despaired of or is impossible, that religion (like philosophy) takes on a distinctly supernaturalistic aspect, and that interest is transferred to the 'hereafter'. At this point religion performs the same function that was observed in compensatory art, — it sets up in ideal form a perfect environment in which the desired responses are released. This highly valued stimulus in ideal form is clung to and its future realization believed in, while the earthly scene becomes material and evil and something from which to be saved. Knowledge is now discountenanced since it is liable to throw doubt upon the reality of the ideal realm, and since its concern is necessarily with the very realm that one is trying to get away from.

Religion is to be understood in terms of the adjustment process of a group or of an individual to the wider universe. When conditions are favorable religion aids in making the actual adjustment; when conditions render this impossible religion erects an ideal realm which allows of an ideal adjustment. Religion, like art, though employing symbols, is not essentially reflective, and easily falls into a compensatory rather than instrumental status. It may in this way actually hinder the realization of an adequate adjustment which demands that values themselves must change if the running equilibrium of life is not to be lost.

61) On the level of customary morality there is manifested the same conservative tendency that was observed in religion: the tendency to symbolize older successful adjustments and to oppose change. The mere fact that a thing has been done is regarded as sufficient evidence that it must be done. The laws of right and wrong — which often differ fundamentally from group to group — become formulated in moral tables. The morality of the group can in no way be separated from the total complex of its activities.

The breakdown of the group habits by calamities, crises, or need for a new adjustment, liberates the individual as such, and the stage of reflective thinking. When life can no longer run in its habitual channels reflection aids in a new adjustment. The group fears this reflective individual and often fails to see that he is the hope of the group if only his increase in freedom can be coupled with an increased sense of responsibility. It is with the emergence of the individual that the level of reflective morality appears.

The conflict between the individual and the group now becomes acute, and the various ethical theories have tended to emphasize one side or another of this relation. The good has either been found in some form of individualism or in some form of subordination of the individual to the group, in egoism or self-sacrifice. The same error lies in the root of both these views: the group is somehow conceived of as something different from individuals. The realization that the individual and society are correlative — that neither can be subordinated to the other — would obviate much of ethical extremes.

A recognition of the place of reflection in behavior leads to what might be called a total-situation ethics. Reflection is now the court of appeal for all the various factors of the situation. None of these may be neglected, — self-sacrifice is as immoral as disregard of others. Past formulations of ethical actions and present scientific data give the facts upon which the reconstruction is to proceed. The right act is the act which does justice in the highest degree to the demands of the total situation, duty being the demand to consider the total situation. Morality becomes a human affair — a matter of living well and richly together, and not an affair of repression and sacrifice. It is part *of* the biological process and not something opposed to it. In more ways than one the Greek view of a harmony attained by reason makes it appeal to modern men. Modern ethical theory is approaching the ideal of classical Greece in this respect.

62) Though fact and value are inseparable, it is convenient to regard science as concerned primarily with fact. The term ‘fact’ refers to the actual given as distinct from the interpretation in terms of symbols, and as distant from the ‘value’ of that given. It is a ‘fact’ that certain given appear and that there is givenness, irrespective of whether we know the nature of the given or whether we like or dislike them.

In considering science it is first necessary to realize that there are *sequences* among the given, in which given similar to — though not identical with — past given appear. It is possible to conceive of a stream of given which never repeated itself in any way. In this case there could be no recognition and anticipation. Science would be impossible. Experience as it is however reveals similarities among the given and sequences in the order of their appearance. The symbol itself is a term for such a sequence between two given and the response of an organism. It is essential to realize that the revealed sequences include indiscriminately members of the tactual and non-tactual, symbolic and non-symbolic types. There would be no possibility of control if there were no sequences. Man can label these sequences and recognize them, and can on the appearance of part of the sequence, anticipate the rest of the sequence and govern himself accordingly. The process of adjustment is rendered highly plastic in this way, and a new means of conquest attained. The organism, by means of this 'higher eye' or 'mental antenna', can regulate its present behavior in the light of future consequences. Such action represents the highest achievement yet attained in the struggle of living forms for the possession of life and power in the midst of a changing environment.

Science is the study of sequences among the given. It gives partial control of those given which have great human value by means of the analysis of the conditions under which these given appear. The insistence of science upon fact shows a realization that the thought-about and the thought process must not be confused, for facts have a status irrespective of any specific interpretation of them. Science on the whole observes the distinction between the symbolic and the non-symbolic realms of experience. Though any specific science is composed of both fact and theory — givenness and interpretation in symbolic form — these two aspects of science are not generally confused.

Science proceeds by projecting hypotheses — generalized predictions made in the light of past experience — which are confirmed or refuted by the experiences predicted (experiment being the technique for controlling experience). Hypotheses that cannot conceivably be verified have no place in science. The view of truth expressed in these pages is essentially the view of truth which the working scientist actually uses. As the interpretive aspect of science grows there is a tendency to build up a symbol system, in order to exhibit more completely the relation between the various interpretations. Science works on the one hand toward symbolic systematization (consistency) and on the other hand to relevancy with, and where possible, to control of, the facts of experience. A single fact or exception which the existing symbolic scheme cannot find a place for demands a reconstruction of the symbolic scheme, and not a denial of the fact. It is in science that the reflective process appears at its best, and that both aspects of the logical process — consistency and truth claims — find their harmonious and complementary functioning.

Science need not assume anything to begin its work. Uniformity of nature, a monistic universe, the law of parsimony, and the like, are not presuppositions *of* science, but hypotheses — and questionable ones — of certain working sciences. Nor is science essentially mathematical in nature, for only certain material allows of reduction to mathematical symbols. Science does not assume sequences, for sequences are facts and facts cannot be considerd as assumptions, — there simply would be no science if there were no sequences. The laws of science are the symbolic records of observed sequences generalized to predict the future. If the sequences should change the 'laws' would change, for the laws of nature are descriptive and not coercive.

63) The doctrine of conditions is the generalized statement of which the usual law of causality is but a partial statement. It has been observed that science investigates the conditions under which certain given appear in so far as it is necessary to control the appearance of the given in question. The conditions — always part of the sequences in which the given in question appears — are what is meant by the 'cause'. Since many of the conditions remain constant, there is usually one main condition which varies and which is called *the* cause. No occult passage from cause to effect is anywhere introduced. Cause and effect are terms relative to the given in which interest is centered, they are human canalisations of the stream of experience, and ultimately go back to the attempt to retain or dismiss valued stimuli. The doctrine of causality as usually presented is the doctrine of conditions limited to tactual given. The account is too narrow and grows out of the assumption of a difference in kind, and hence an unbridgeable chasm between, mind and matter. Parallelism and epiphenomenalism are the inevitable results of such an assumption. The doctrine of conditions includes *all types of given* for it is simply a fact that the members of a sequence may be tactual, non-tactual, symbolic, and non-symbolic in varying degrees and combinations. An image or word can 'cause' a physical reaction in just as real a sense as one stone can cause another to move.

The conditions for givenness always appear in science as other given. Science never gets beyond givenness to some noumenal reality. Since the very notion reality was called in question in the chapter on reality, it is equally true that science is not limited to phenomenal reality, but deals with reality itself.

Science has at times confused symbols with things, and even now retains mythological elements. Such concepts as ether, time, space, energy, force, electron, matter, are going and must go through the mill of critical analysis to determine their precise meaning, and to avoid giving them an entitive status.

There are many indications that the philosophy of science will be an important field in the future for constructive work. Symbolism offers one approach to this material. It is to be hoped that such study will complete the breakdown of the artificial barriers between science and philosophy. Science is man's greatest instrument in controlling his world and in molding it, in so far as this is possible, in harmony with his desires. Just as magic is ancient science, so is science 'modern magic'. It is essential to keep sharp the cutting edge of a tool of such great power.

The philosophy of science is yet to attain a satisfactory treatment, since the scientist has been forced in the past to accept current philosophical views, and the philosophers have carried their uncritical concepts into the interpretation of science. Le Roy believes science does not get to reality (Perry, *Present Philosophical Tendencies*, page 80); Pearson relied too heavily upon the subjectivism of English empiricism; Ward believed 'consciousness' alone was real and the rest to be appearance (Rogers, *English and American Philosophy Since 1800*, page 335); Husserl has a good statement as to the study of the perceived things by science but gives this an idealistic interpretation (Bosanquet, *Meeting of Extremes*, page 139); Spencer took science to be the study of 'the experienced laws of sequence' but continually introduced metaphysical concepts (Rogers, ibid, page 139); Huxley took matter, force, and consciousness for the realities. Lewes appears to have a much sounder basis for his reaction against the 'metempirical' in science, and in his insistence that reality is to each as it appears to be (Rogers, ibid, page 168, 171).

Hobson, in the *Domain of Natural Science*, recognizes that the conceptual elements in science must not be confused with the perceptual (he claims the atom is a concept), that causation must give way to statements in terms of sequences, and that science requires no metaphysical assumptions, but he relegates science to phenomenal reality and even there denies it admission to the 'psychical'.

Two statements of the doctrine of conditions follow:

1) "I will teach you the Dhamma: That being present, this becomes; from the arising of that, this arises. That being absent, this does not become; from the cessation of that, this ceases." Gautama the Budda, Majjhima Nikaya, ii, 32.

2) "... the current scientific conception of a cause as the 'totality of conditions' in the presence of which an event occurs, and in the absence of any member of which it does not occur. More briefly, causation in the current scientific sense means sequence under definitely known conditions." A. E. Taylor, quoted by J. A. Thomson, *Introduction to Science*, page 45, 46.

The separation of the physical and the psychical, which has so dominated modern thought, is responsible for much of the past attitudes in regard

> to science. This separation, seen so clearly in Descartes and perpetuated by Kant, is itself due to the presence of two great historical factors in Western civilization: the development of the religious notion of the soul, and the need for the reduction of the world to simpler elements so that science could process. The separation of the physical and the psychical temporarily satisfied these two demands. On the one hand it reduced the material of science to a world of bodies in motion and allowed the application of scientific technique; on the other hand it left room for the religious interests and for the qualitative contents of experience not amenable to mathematical treatment. The separation was not without its bad effects, since it led to a distorted view of both philosophy and science. Philosophy was given the artificial problem of getting from the subjective realm of mind (the afterglow of the soul) to the realm of noumenal reality; science was relegated to the phenomenal realm and given a distinctly mathematical cast. The scientific insistence upon 'eternal law' and 'absolute truth' is itself a continuation of the religions demand for security.
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> The substitution of a difference in *function* for a difference in *kind* in the relation of the psychical to the physical involves a reconstruction of both science and philosophy.

64) Philosophy, like ethics, art, and religion, must be connected with the total complex of civilization, and with the problem of the adjustment of the individual man to the universe. These two aspects of philosophy will be taken up in turn.

The term 'civilization' refers to a complex of interrelated activites of a number of individuals and the products of such activity. At times the term is applied to a cross section of a group at some period, while again the term is used to refer to a process in time. The interrelated activites include the economic preoccupations, the arts, the customs, religion, and at the complex levels, science, and philosophy. A civilization may be of a very simple type, or it may be highly complex. In either case the activities cannot be divorced from the geographical, racial, and historical features. Civilizations, like everything else, have conditions which account for their nature and existence. The main differences between civilizations are not probably due to individual differences of the members but to cultural heritage which symbols make transmittable, and to the experiences which befall the group under consideration. Modern man does not differ from primitive man in capacity, but in complexity of the substitute stimuli and symbols which direct his learning or adjustment process.

Looked at longitudinally a civilization may be said to exhibit a cyclical nature. The rise and fall of civilization is surely the outstanding fact of history. The cycle may perhaps be described in terms of four important stages: the stage of conquest and struggle, the stage of adjustment and harmony, of defeat and calamity, of decline and dissolution. A conquering race attains a condition of power and strength, only to have this broken down and the group solidity destroyed: this is the cycle which the study of historical sequences reveals. Since the art and philosophy are components of the civilization complex, they inevitably reflect the changes which take place. The feeling accompaniment of the cycle of civilization is of this nature: it begins with a joyous objectivity, develops to a sense of power and harmony, gives way to a sense of calamity and frustration, and finally ends in a sense of despair and isolation. The individual changes from an immersion in the group, to rebellion from the group, and finally into an isolation of the individual. Art passes from an interest in the typical and the objective to a morbid particularity and sensitivity. Religion changes from a demand for physical goods and blessings *in* the world to a demand for salvation *from* the world. Philosophy changes from an objective interest in the world to a chronicle of change and human relativity, then sharpens the separation between soul and body, and finally loses itself in a supernaturalism which reduces this world to an illusion.

The history of Indian civilization furnishes one striking example of the above cycle. The objectivity and joyfulness, and the interest in the goods of the earth characteristic of the Vedic period, develops in the period of the Upanishads to an otherworldliness which still regards this world as real, passes into a sense of impermanence and individual demands for salvation in early Buddhism, and ends in the Vedanta with a complete otherworldliness which reduces the experienced world to an illusion.

The Hebrew development reflects the same succession of events. The strength and vigor of the early nomadic period passes into the adjustment of the Kingdom, but this is lost with the fall of Palestine, the Babylonian exile, and the rule by foreign kings. It is only after this long period of struggle and depression that the interest in immortality and a future spiritual world manifests itself, and that the cry is for liberation from the world.

Greece illustrates the same cycle. Homeric joyousness, gradually deepened by the Heraclitean sense of impermanence, passes into the harmonious bloom of classic Athens. But with the destruction of Athenian supremacy by Sparta the breakdown of Athens is inevitable, and is restored only in an ideal form in the Platonic and Aristotelian philosophical afterglow of the Age of Pericles. Even in Plato the separation of soul and body has become acute, and the gaze directed at times to the beyond. With Plotinus the cycle has ended, — liberation from the earth is the demand, and the isolated soul flies from all that exists to the isolation of God.

Some phases of the general civilization cycle should be noticed that are common to all the peoples that have been considered. First, the passage is always from a naive naturalism in which the beyond is regarded as of the same stuff as this world, to an extreme supernaturalism which renders this world evil and illusory. The passage in general is from the concrete to the abstract. The early gods are personal and distinctly human, the later God is abstract and impersonal. Supernaturalism seems to come only at the *end* of a cycle of civilization. Second, the reflective individual emerges with the breakdown of customary behavior, when the usual adjustments are no longer adequate, and when the individual must 'save' himself. Reflection in general comes when new adjustments are demanded. Third, the origin of subjectivity lies in the same breakdown of the individual's customary adjustment under situations which do not allow any other satisfactory adjustment. In this case there is a suspended or continued symbolic process which cannot terminate in adaptive behavior. The 'inner life' then comes into prominence and is emphasized to the depreciation of the 'outer' world. The individual is on the defensive and aims to build up his inner life so that he can banish or nullify the effects of the troublesome situation which surrounds him. Compensation by symbols, emphasis upon the stoical virtues, and a craving for immortality and the supernatural are the inevitable corrolaries of frustrated adjustment on the earth.

Great groups of people in the cycle of civilization manifest in a lucid way the same psychological mechanisms which the individual manifests in his 'rise and fall'. The cycle of civilization is the cycle of many a human life 'writ large'.

65) The application of the cycle theory to Western civilization is complicated by the fact that we are *in* this process and so may lack a sufficient perspective, and by the fact that the symbolic accumulation has introduced cultural elements from many past civilizations. It is nevertheless possible to make out the general stages and direction.

The northern barbarians which conquered the collapsing Graeco-Roman world were in turn partly conquered by the symbolic and cultural accumulations which they encountered. Lusty youth was awed by hoary wisdom. The history of Western Europe is largely the history of the aggressive germinal civilization throwing off the symbolic expressions of a later stage of another civilization cycle, and working through to a literary, scientific, and philosophical formulation expressive of its own youth. The modern world then represents the struggle of two tables of values, — of a table of values of an older civilization and a table expressive of the new civilization in the early and middle stages of its cycle.

Western European history is *often* presented as being due to a mixture of Greek and Hebrew influences. It is truer to say that the essence of the civilization is Gothic and lies in the activity of the northern races, an activity which has lately begun to attain a complete emancipation from the Greek and Hebrew symbolic expression. The naturalistic stress on activity which characterizes the early stages of the cycle in which Western Europe finds itself, forms an incongruous contrast to the supernaturalism and longing for salvation which has been formally accepted as a symbolic expression of this civilization. Youth often mumbles the words of age without sensing the incongruity.

This double movement can be traced all through Western history. The Middle Ages everywhere show the contrast between the crudeness, earthliness, and brutality of the barbarian conquerors, and the supernaturalism of the conquered which comes to stand as the 'expression' of the Middle Ages. The philosophical battle of realism and nominalism reflects the struggle of a supernaturalistic table of values against an emerging demand for naturalism.

The contrast between the two streams of modern Europe can be brought out in the terms 'authority' and 'experience'. 'Authority' represents the belief that truth has been found in the supernaturalism of Neo-Platonism and Christianity, that the individual man has only to accept and to believe. 'Experience' stands for the attempt of Western Europe to develop its own expression, to throw over the authoritarian tradition, and to go back to experience as the basis upon which its views are to be built. The conflict between religion and science, and between rationalism and empiricism in philosophical thought, brings out this same conflict. It is with the scientific attitude that Western Europe has come into its own. This cycle is perhaps at, or a little beyond, the period of Heraclitus and the Sophists in the Greek development, — with the emphasis on change and with the emergence of the reflective individual. An adequate expression of this emerging civilization has not yet been found. The continual struggle in Europe may have transferred to America the task of developing such an expression. The practical problem lies in the integration of the 'emerged' individual with a new society and a new table of values. It was in the failure to attain such a reintegration in actual life — the ideal of Plato and Aristotle remained only an ideal — that the Greek decline was foretold.

> Spengler's *Decline of Western Civilization*, and Petrie's *The Revelation of Civilization* present cyclical theories of civilization. These books are briefly discussed on pages 307 to 310 of Ellis' *The Dance of Life*. Both men regard the early nineteenth century as the *end* of a fertile period. It is much more likely that the civilization of which we are a part has had a continued and unbroken descent from the northern invasions around 450 A.D. Spengler catches only *one* stream, the down going one, and this is merely the throwing off of foreign symbols. He fails to catch the ascending current of which the eighteenth century is only a part and not the culmination. It may be — though it is doubtful — that European fertility has been lost, and that the 'philosophy of the future' will have to seek other regions, such as America, for its fruition. America can hardly be regarded as the *beginning* of a new cycle, though it may be that it is in America that the Gothic cycle will receive its mature expression. The realization of the Gothic element in our civilization, usually neglected or at least minimized in the emphasis upon Greek and Hebrew sources, is brought out in W. R. Garrod's essay 'Christian, Greek or Goth?' in the volume *The Religion of All Good Men*.

66) Philosophy as one development of the symbolic process must reflect the nature of the civilization of which it is a part. The struggle between authority and experience in the modern world is clearly revealed in the philosophical literature. Realism, and nominalism, rationalism and empiricism, represent the emphasis upon authority and experience respectively.

The significance of Bacon lies in his rejection of authority and in his insistence upon getting back to the particulars and facts of experience. He clears the ground by attacking all verbalism in science and philosophy. His aim is to extend the control of man over the world of which he is a part. In his *Instauratio Magna* he even realizes that a new philosophy is to be built upon this return to experience. But a realm of faith exists side by side with his hope for the 'kingdom of man'. He speaks of the senses as like the sun "which reveals the face of earth but seals and shuts up the face of heaven". He abandons metaphysics only verbally — religion is his metaphysics.

In Descartes the two tables of values are clearly evident: he wishes to make us "lords and possessors of nature", — yet the "contemplation of the Divine majesty ... is the source of the highest satisfaction of which we are susceptible in this life". His demand for certainty and his attempt to find an internal test for truth clearly represent the authoritarian tradition. The separation of the two streams comes out even more clearly in his dualism of thought and extension, a dualism which left room both for a mathematical treatment of the world of science, and for the religious content of the soul, but a dualism which falsified both philosophy and science.

Spinoza is essentially modern in many respects, although his acceptance of the self-evidence of truth reveals the authoritarian tradition. He wants to direct all the sciences to one end — "to attain the greatest possible human perfection", and insists that "the more perfection anything has, the more active and less passive it is .. ". He rejects teleology, anthropomorphism, and the evidence of miracles and revelation in his deification of the manifestations of unswerving power. He insists upon the importance of reason in the solution of moral problems, and like Aristotle, advises against the extremes of indulgence and asceticism.

The experience tradition has always been insisted upon in England. Locke continually aims to get behind words to experience, and to bring the pretentious flights of reason down to earth. The current world view which separated mind and matter as differing in kind was uncritically accepted by Locke and brought *him* to earth. This paradox of English empiricism has already been commented upon. Berkeley continues the tradition by insisting that a non-experimental matter has no meaning or reality. In Hume the reaction against the authoritarian tradition and values, in favor of the facts of experience, reaches its classic culmination. His fundamental interest was in the science of man; his technical philosophy was largely to clear the way for this interest. An early uncritical acceptance of mind — itself a remnant of the soul of the authoritarian tradition — landed Hume in the very metaphysical net which he had aimed to destroy. It is for such reasons that an adequate treatment of mind is central to a thoroughgoing naturalism. Hume's insistence that the meaning of terms — matter, soul, knowledge, causation — must be traced back to experience, was essentially sound, but his analysis of experience, particularly of the reflective portion, was faulty.

With Kant the two streams of the modern world come to a focus, though the principle of authority wins out. In Kant the struggle takes the form of reconciling science and religion. He wishes to keep the ideals of the authoritarian tradition — God, freedom, immorality, universality and necessity in knowledge — and yet to secure the relevancy to experience which empiricism had insisted upon. He saw that this could be done only if thought could constitute its object, for then there would be certain judgments (universal and necessary) and yet judgments relevant to actual objects. Kant's early separation of thought and existence doomed this attempt to failure, — for the 'matter' at any rate could never be constructed. The conflict between religion and science was met by making them deal with different realms — science dealing with the phenomenal, and religion with the noumenal realm. Even in Kant's moral views the same conflict is evident: although his morality is essentially Christian the modern note comes out in the insistence that the moral laws which man must obey are given to him by his deeper rational self.

The true significance of Nietzsche is to be found in his complete rejection of the authoritarian table of values and in his attempt to set up a table of values, based on earth life, more congenial to the insistence upon experience of the unfolding civilization which he so keenly felt.

The pragmatic movement is best understood as part of the attempt to give a more adequate expression to the experience tradition. It is perhaps the first technical philosophy that is completely emancipated from the opposing table of values. Radical empiricism does justice to the nature of experience and instrumentalism to the nature and place of thought and mind within experience.

This glance at philosophical history shows that the experience tradition has become more and more conscious of itself and of its contrast to the authoritarian tradition. It has succeeded in breaking through the symbolic net which so long surrounded it, and is well on the way to an expression more in harmony with its fundamental interests. The new table of value is being written and has already taken on a recognizable form.

67) A philosophical attitude as it appears in any specific individual is inseparable from that individual's adjustment or attempt at adjustment to the universe. A person's philosophy, like everything else, is 'conditioned' by the stage in the cycle of civilization, and by the age, nature, capacity, and experience of the individual. Differences in emotional nature and symbolic capacity of the individual make themselves felt in the final system. An individual who has had great calamities or conquests will express these in his philosophy. Philosophy as a symbolic process must supervene upon something which it can symbolize. Philosophy is the most general form of the adjustment process, and cannot avoid psychological and biological interpretation.

Philosophy arises when the problematic situation, characteristic of reflective thinking, is generalized to include all experience. The world then becomes an ambiguous stimulus, and philosophy is the reflective process which aims to resolve this ambiguity so that the total adjustment may be completed. In philosophy in its most general form the symbolic process is directed to the sum total of stimuli. Philosophy aids in the adjustment of the individual by interpreting the ambiguity of the world which arises by the generalization of the problematic situation. What do things mean? where do things come from? what is the relation of the universe to my hopes and struggles? is the universe of the same stuff as myself and in harmony with me, or is it alien and hostile to me? — these are the problems to which the adjustment process ultimately leads. The attempt to answer such problems involves studies in the nature of thought, its relation to reality, and so on, — and 'technical' philosophy arises. Part of the technical elaboration may be compensatory — to avoid the real issues — but the major part of it arises inevitably out of the complex nature of the problem dealt with. Philosophy, like all symbolic processes, may lead to a richer adjustment to the stimulus or it may 'explain away' and set up an ideal realm in which the adjustment is made. Philosophy at the end of a cycle of civilization often becomes a matter of salvation *from* the troublesome scene, and supernaturalistic in nature. At the earlier stages of the cycle the aim is for adjustment *in* the surrounding realm, and philosophy is then earthly and naturalistic.

> The demand for security and eternality is really the demand for an unchanging environment so that a perfect adjustment may be retained and enjoyed. In times of stress this demand is increased and the process of change is made into an 'appearance' of some permanent reality. (This idea and its above development was suggested by Dr. A. W. Moore).
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> The converse is also true: when life is more sure of its adjustment capacity the emphasis upon the permanent is replaced by the thrill in the impermanent. The sheer process of adjustment then becomes fascinating.
>
> For this reason a close parallel to the naturalistic and supernaturalistic philosophies would be the philosophies of fluxism and eternalism. The individuals of great physical vigor and capacity for adjustment find no terror, but a positive delight, in a thoroughgoing fluxism; those individuals who lack confidence and have difficulty in making adjustments, naturally seek the security of eternalism.
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> The Conscientious One in Nietzsche's *Zarathustra* in the section on 'Science' states this contrast of temperaments in speaking to Zarathustra:
>
> "We *seek* different things even here aloft, ye and I. For I seek more *security* ... Ye, however, when I see what eyes ye make, it almost seemeth to me that ye seek more *insecurity*, more horror, more danger, more earthquake."
>
> The tendency toward naturalism in times of earthly success, which parallels the supernaturalistic tendency shown at times of great distress, has been stated by Goethe in the first part of the Faust in these words:
>
> "When this world's Good is won, we count it real,
> And count the Better but a mocking show."

68) Looked at from the perspective of the adjustment of man and the universe, the relation of philosophy to both fact and value is inescapable. In common with all reflective processes, philosophy deals with the symbolic interpretation of fact, but it does this with reference to the supreme values of

life. Though philosophy has often fallen to a compensatory level, its main task is connected with the main problems of adjustment. The biology of philosophy only increases and in no sense minimizes its importance. The synthesis of fact and value allows a true synthesis of science and art. The art of life is not merely a pleasing phrase — it expresses that rational harmony which points the way to the ideal of a social and individual life that literally becomes a work of art.

In the specific situation which confronts philosophy, the task of expressing and amplifying the emerging table of values is worthy of completion. Philosophy is vision — and such vision is sorely needed by the present age. Remaining true to the earth, philosophy in dealing with these larger sequences of experience can aid in the successful invasion of the future. It can purify and sharpen the great tool of mankind — mind. A new naturalism based on the romance of actuality must essay the experiment of admitting the ultimacy of impermanence, and of living in the *midst* of change, — and in *this* way of conquering it. This world with its pain and its ecstacy, its destructions and creations, alone is man's world, — death and annihilation are but the limiting conditions within which man must develop the highest possible degree of life and vision.

SUMMARY

Foreword.

The essay is concerned with the problem of the nature of mind, the place of mind in experience, and the relation of mind and experience to reality at large.

The essay will aim to show that thought and mind are not entities, nor even processes involving a psychical substance distinguishable from the rest of reality, but are explicable as the functioning of parts of the experience as symbols to an organism of other parts of experience. Being then the symbolic portion *of* experience, the psychical or mental can neither be sharply opposed to the rest of experience nor identified with the whole of experience. And since experience will be shown to be a portion of reality, it follows that mind and reality can never be utterly separated nor indiscriminately identified. A functional view of mind gives a new basis for the interpretation of philosophical problems.

The Thesis of Symbolism.

An analysis of givenness or experience — that which is immediately 'there' — reveals the separation of experience into symbolic and non-symbolic portions. Within experience some given do not lead or point on beyond themselves, while other given function representatively. The given which is thought about and what is thought about the given can in all cases be sharply separated, and this illustrates the functional difference between the non-symbolic and the symbolic portions of experience. The failure to make this distinction is the root error of idealism and rationalism.

A Symbol is a representative given — a substitute stimulus which calls out the memory image of the original stimulus as well as the response which the original stimulus called out. Substitute stimuli are perhaps operative throughout the animal world; it is with the symbol that mind emerges.

In the symbol the image of the original stimulus constitutes the meaning or signification of the substitute stimulus which is functioning symbolically.

The meaning of a symbol is the object or situation for which it is a substitute stimulus and which it recalls. A symbol is a meaningful substitute stimulus.

At least three levels of the symbol are distinguishable: the level of the simple symbol which antedates the development of the social self, and requires no reference to other animals; the level of the language symbol, similar to the simple symbol except that two or more organisms have the same symbol in common; the level of the internalized language symbol (Mead's 'significant symbol') when the development of the social self has made possible the internalization of the original objective situation. At his level thought and mind are social and meaning involves a reference to self and others.

A symbol is the simplest idea, thought involves sequences of symbols, mind is the locus of symbols. *A* mind refers to the symbolic repertoire of some organism. 'Consciousness' also refers to the representative portion of experience and not to a psychical searchlight which unifies fragmentary experiences. The present analysis of mind is sharply opposed to the 'ivory tower' or entitive view of mind which has so dominated the history of modern philosophy. Experience is not *in* a mind. 'Mind' refers to the symbolic portion of experience.

Some Psychological and Biological Considerations.

The significance of the place of the organism needs to be further stressed. A symbol is always a symbol to some organism — there are no symbols at large. The organism is necessary to supply the imagery which gives the substitute stimulus meaning.

The symbolic process is a complex extension of the learning and adjustment process. There are three levels of behavior: behavior that involves no substitute stimuli; behavior that involves substitute stimuli of the non-symbolic sort; behavior that involves the presence of symbols. Even the simple symbol is of biological value since it allows absent stimuli to guide present behavior. The raccoons in the Hunter delayed reaction experiment may illustrate this simple symbol. At the higher levels the biological value of the symbol is even greater since it permits of the funding of experience and of a reference to self and others.

Symbolic processes allow the control of present behavior by absent stimuli. Control by absent stimuli means freedom from present stimuli. In reflective thinking the organism rehearses the previously overt trial and error process on the mental level. The organism which can use parts of the environment as signs of other parts gains a degree of adaptability impossible on non-symbolic levels. Man's distinctiveness lies in the complexity to which he has carried the symbolic processes.

The Logic of Symbolism.

Logic is defined as the study of the nature and function of symbol systems in general, where nature refers to the relations and connections between symbols and function refers to the relation of symbol systems to the non-symbolic realm. The first constitutes formal logic or the logic of consistency; the second constitutes instrumentalism or the logic of truth. These two poles of logical theory are not opposed but are complementary. The account of the first treats of the relation of Aristotelian and symbolic logic, the nature of symbol systems, and the relation of mathematics to formal logic; the account of the second is concerned with the relation of formal logic to the actual reasoning process and with the problem of truth and error. A purely formal logic is impossible by the very nature of meaning, for it is here that the connection with behavior and the non-symbolic portions of experience is made. It is this connection that changes logic from an affair of consistency to a matter of truth and error.

Reflective thinking is found to involve the interpretation of an ambiguous stimulus by symbols due to past experience, the purpose of the interpretation being to allow behavior to proceed. In the actual temporal process of reasoning there is nothing certain to begin with except the presence of the ambiguous stimulus or situation. The process is not from certain premises *to* a certain conclusion. Both the premises and the conclusion are tentative and are confirmed simultaneously when an interpretation (predicate expressed in symbolical form) of the ambiguous stimulus (the logical subject) is reached which again allows behavior to proceed overtly and directly.

Truth is the confirmation of a prediction or prophecy of an experience by the occurence of the predicted experience, or, as regards the past, by evidence of the predicted experience. Falsity is the non-occurence of the symbolically predicted experience.

Givenness and Reality.

The relation of mind to experience having been considered, there remains the problem of the relation of experience or givenness to reality. The presentation aims to pass from the fact of givenness to a doctrine of reality which synthesizes realism and idealism, and avoids both solipsism and an unknowable reality.

Whenever there is any givenness an organism can always be found in the vicinity, even though it is not given at the time. The organism may or may not be given but when given is exactly on a par with all other given. Given cluster around an organism and are given 'to' the organism or some part of it. Such a relation of organism and given is called a perspective. A perspective is not mental for the mental arises within the perspective upon the emergence of symbols. The transition from one perspective to the existence of other perspectives is demanded by the presence of language symbols.

All perspectives are equally real, and there is no reason to assume an ultimate perspective of which all other perspectives are appearances. Experiments within the perspective require the introduction of existents — an existent is that which is a condition of its own givenness. There was an existent world before organisms and experience, but the nature of the world can only be described in experiential terms. Experience reveals the true nature of reality. Reality would be completely revealed in all possible givenness. Reality may be defined as all actual and possible givenness. Things are as they are experienced as, and such experience is 'ultimately' real. To be is to be given or to be capable of being given. Reality can only be described in terms of experience but such description does not generate reality or reduce it all to mental terms.

Philosophy and Civilization

The essay closes with a brief application of the previous material to the realms of value and fact, and to the nature of philosophy and its connection with value and fact.

Value is identified with significance just as meaning was identified with signification. Anything that calls out a response that tends to approach the stimulus and to keep it operative — ruling out other stimuli which might make one approach the stimulus which in itself would not call out a positive response — is a positive value. If a negative response is called out the stimulus has a negative value. Valuation is a form of the reflective process and must not be confused with the experience of value. On the basis of this view of value the relation of art, ethics, and religion to value is developed.

The term 'fact' refers to the actual given as distinct from the symbolic interpretation and as distinct from the value of that given. Science deals with the factual sequences which experience reveals and interprets these — and ultimately attempts to control them — by the aid of symbols. Science realizes the distinction between fact, and interpretation and value. Truth is a function of prediction. The laws of science are generalized predictions made possible by symbols. In science the reflective process appears at its best. Both aspects of the logical process — consistency and truth claims — find in science their harmonious and complementary functioning.

Philosophy is a complex extension of the symbolic process and deals with both fact and value. It is inseparable from the surrounding civilization on the one hand and from the problem of the adjustment of the individual thinker on the other. The first aspect may be observed in relation to the cycles of Indian, Hebrew, Greek, and European civilizations. The northern barbarians which conquered the collapsing Graeco-Roman world were in turn partly conquered by the symbolic and cultural accumulations which they encountered. The history of Western Europe is largely the history of the aggressive germinal civilization throwing off the symbolic expression of people in a later stage of another civilization cycle, and working through to a literary and philosophical formulation expressive of its own youth. The modern world then represents the struggle of two tables of values — a table of values of an older civilization and a table expressive of the new civilization in the early stages of its cycle. This is reflected in the philosophical literature of the times.

Philosophy arises in the individual when the problematic situation is generalized. The world then becomes an ambiguous stimulus and philosophy is the reflective process which aims to resolve this ambiguity so that the total adjustment can be completed. Philosophy deals with the symbolic interpretation of facts but does this with reference to the major values of life. The need of philosophical vision is particularly acute in the transition which the present age everywhere shows to be taking place.

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INDEX OF NAMES

Alexander 46
Allport 4, 42, 83
Aristotle 49, 55, 97
Bacon 47
Baillie 61
Bergson 1
Berkeley 5, 7, 11, 67, 74, 97
Bosanquet 8, 20, 74, 83, 91
Bradley 83
Brown 53
Darwin 22, 27
Descartes 19, 20, 92, 96
Dewey 4, 5, 7, 9, 17, 20, 21, 23, 41, 46, 47, 49, 57, 60, 63, 64, 68, 72, 76, 86
Einstein 15, 61
Ellis 96
Euclid 53
Faure 86
Garr 33
Garrod, W.R. 96
Gautama the Budda 91
Goethe 99
Gorki 1
Hegel 20, 74, 75
Heraclitus 63
Hobbes 42
Hobhouse 20
Hobson 91
Hume 5, 7, 8, 11, 18, 20, 27, 53, 66, 97
Hunter 4, 31, 32, 33, 34, 35, 39
Husserl 91
Huxley 91
Inge 83
James 1, 4, 7, 8, 23, 64, 66, 81
Jeliffe 44
Kallen 83
Kant 20, 75, 92, 97
Keyser 54
Laird 20
Le Roy 91
Leibnitz 20
Leonardo Da Vinci 1
Lewes 91
Lewis, C.I. 4, 49, 50, 53
Locke 7, 19, 64, 97
Ludovici 86
MacTaggart 20
Mead, G.H. 4, 40, 41, 46, 64, 69, 102
Moore, A.W. 4, 17, 49, 64, 99
Morgan 46, 83
Muirhead 61, 83
Nietzsche 4, 60, 81, 86, 98, 99
Ogden 22
Pearson 91
Perry 67, 91
Petrie 96
Prall 83
Prometheus 86
Richards 22
Rogers 91
Russell 21, 53, 67, 72, 76
Schevill, F. 4
Schiller 49
Sellars 21, 74
Socrates 58
Spencer 11, 91
Spengler 96
Spinoza 19, 20, 53, 78, 97
Taylor, E. 91
Temple 83
Thomson, J.A. 91
Ward 91
Washburn 33
Watson 4, 16, 19, 29, 33, 34, 35, 39, 46

White 44
Whitehead 21, 53, 54, 67, 72
Woodbridge 23
Woodworth 17
Zeitler 86

INDEX OF SUBJECTS

action 10
adjustment 27, 28
afterimage 10, 32
animal 31
appearance 77
apprehension 20
Aristotelian logic 49, 50, 51, 58, 103
art 3, 27
attention 30
authority 95, 96
awareness 20, 21, 22, 24
beauty 2, 84
behavior 4, 6, 13, 14, 15, 17, 21, 24, 27, 28, 31, 32, 34, 35, 36, 37, 38, 55, 56, 68, 81, 82, 102
behavior repertoire 38
behaviorism 28, 29, 30, 32
behaviorist 32
behavioristic 2, 19, 30, 33
biological 28
biological category 27
biology 3, 4, 28
bodily language habits 19
body 9
brain 10, 21
brain-mind 21
causation 12
cause 90
change 11
children 31
civilization 2, 3, 4, 82, 92, 96, 105
cognition 74
coherence 65
color 10, 21
communicate 15
communication 46
conception 8
conditioned reflex 16
conditioned response 13
connote 23
conscience 41
consciousness 2, 3, 4,26, 13, 18, 22, 23, 24, 29, 78, 102
consistency 48, 61, 103
contact 10
copy theory 59
correspondence 59
cortical activity 42
deduction 48
definition by pointing 54
delayed reaction 31
denote 23
desire 36, 74
disease 2
dream 7
effect 9
electron 2
emotion 7, 10, 12, 14, 15, 18, 21, 22, 28, 83
empiricism 7, 65, 96
energy 2, 77
environment 29, 68
epistemological 21
error 4
esthetic experience 85
ether 2
ethics 3
evolution 2
evolutionary 28
existence 20, 97
experience 4, 5, 6, 7, 8, 10, 12, 15, 17, 18, 20, 21, 23, 24, 27, 31, 33, 34, 37, 47, 49, 56, 57, 58, 60, 61, 62, 65, 66, 67, 68, 69, 72, 73, 74, 75, 77, 81, 89, 90, 95, 96, 97, 98, 101, 103, 104
expression 18, 37, 69

extension 48
external world 11
fact 88, 100, 104, 105
feeling 74, 83
force of gravity 2
form 29, 32
formal logic 47, 48, 49, 51, 52, 53, 54, 61, 103
freedom 36
function 17, 20, 33
functional 30
functional insanity 43
functionalism 28, 29, 31, 32
generalized other 41
genetic 30
genetical 28
gesture 40, 41
given 6, 7, 8, 9, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 28, 29, 30, 33, 57, 64, 67, 71, 88, 90
givenness 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 21, 22, 24, 28, 29, 34, 35, 37, 38, 40, 44, 45, 57, 60, 61, 62, 63, 64, 65, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 81, 83, 84, 88, 89, 101, 103
hallucination 10, 12
hearer 6
history 10
human ecology 27
hypnotism 39
idea 7, 11, 13, 18, 19, 20, 21, 30, 33, 44, 68
idealist 20
ideational 22
image 12, 14, 15, 16, 18, 21, 28, 30, 31, 34
imagery 15, 30, 31, 35, 45
imaginal thought 34
imagining 7
impression 11, 20
individual
induction 48
inner world 11
instinctive 30
instrumental logic 17, 47, 61
instrumentalism 3, 4, 22, 54, 103
intellect 1
intellectual realm 2
intelligence 2, 36, 37
intension 48
interaction 12, 27
internalized symbol 41, 102
interpretation 7, 8, 89, 105
introspectionism 28, 29, 30, 31, 32, 33
intuition 1
irrationalism 1
knowledge 3, 4, 23, 57, 60, 64, 65, 75
language symbol 18, 35, 37, 39, 40, 41, 45, 68, 70, 102, 104
language 3, 15, 19, 22, 30, 33, 51, 64, 68, 70, 71, 74
learning ability 12
learning process 13, 30
length 2
living 12
logic 3, 4, 47
maladjustment 27
manifestation 11
material 8
material thing 11
mathematical logic 3
mathematical symbol 51
matter 2, 11, 77, 90
meaning 2, 3, 4, 5, 6, 8, 14, 15, 16, 17, 20, 21, 22, 23, 24, 28, 32, 33, 35, 41, 48, 51, 52, 54, 55, 68, 73, 77, 78, 79, 82, 85, 101, 102, 104
meaningful symbol 40
mechanism 33
mediate process 30
memory image 10, 14
memory 9, 14, 15, 16, 17, 18, 24, 30, 31, 32, 33, 34, 45
mental 8, 13, 18, 21, 22, 24
mental disease 16
mental world 11
metaphysics 22
mind 1, 2, 3, 4, 6, 7, 8, 9, 10, 16, 17, 18, 19, 20, 21, 22, 23, 24, 30, 36, 38, 39,

40, 42, 44, 46, 47, 64, 65, 66, 67, 68, 74, 77, 78, 81, 90, 97, 98, 101, 102, 103
motion 2
movement 12
mythology 21
naturalism 97
naturalistic 28
neorealist 21
nervous system 10, 21
nominalism 96
non-language symbol 39
non-reflective thinking 42
non-symbolic given 17
non-tactual 10, 15, 18, 22, 30
object 20, 23
objective world 11
observation 27
observational 28
observer 67
odor 10
organic activity 32
organism 8, 9, 10, 12, 13, 14, 15, 16, 18, 19, 21, 23, 24, 27, 28, 29, 30, 33, 35, 37, 66, 67, 68, 69, 75, 102
origin of language 42
original stimulus 15, 16, 17, 30, 32, 34
other 40, 41
perceived 13
perceiver 13, 64, 66, 73
perception 7, 8, 9, 11, 12, 13, 20, 34, 35, 66, 67, 75
personality 38, 39, 40, 41
perspective 67, 68, 69, 70, 71, 72, 74, 76, 104
perspectivity 68
philosophy 3, 16, 27, 53
philosophy of science 4
physical world 11, 22, 24
physics 3
pointing 6, 8, 22
pragmatic movement 58, 98
pragmatist 21
presence 8
problem solving 30
progress 2
psychical world 11
psychology 3, 4, 16, 17, 27, 28, 29
radical empiricism 4, 7, 21, 23, 66, 76
rationalism 96
rationalist 20
reaction 12, 24, 30
reader 6
realism 22, 66, 96
reality 1, 2, 3, 4, 6, 9, 11, 12, 20, 22, 28, 62, 63, 64, 72, 73, 76, 77, 78, 90, 99, 101
reference 6
reflection 30
reflective thinking 42
reflex activity 42
relation 12
relativity 2, 4, 67, 69
religion 3, 27
repetition 12
representation 17
representative 9, 17, 22, 23, 33, 34
representative given 13, 18
representative function 21
reproduction 12
response 13, 15, 16, 18, 29, 30, 31, 34, 35, 41, 82, 84, 104
satisfaction 60
satisfaction theory 59
science 3, 27
selective behavior 32
self 2, 12, 40, 41, 46
sensation 7, 8, 18, 21, 28, 34
sense impression 20
sense experience 9
sense 9, 10, 21
sense organ 22
sense naturalism 66
sense-experience 61
sensibility 75
sensory stimulus 33
sensory thought 33, 34
sequence 12
shape 10
sign 19, 37, 40

significance 14, 16, 41, 79, 82, 84, 85, 104
significant symbol 40, 41, 102
signification 14, 16, 41, 79, 82, 101, 104
simultaneity 2
situation 14
social 15
social stimulation 40
society 2, 39
solipcism 64, 66
sound 10, 18
space 2
spatial world 11
speech 16, 18
spirit 23, 77
stimulus 13, 16, 29, 30, 31, 34, 36, 38, 82, 84
sub-vocal talking 7
subject 23
subjective world 11
subjectivism 11
substitute stimulus 13, 14, 15, 16, 17, 18, 19, 22, 24, 30, 31, 32, 33, 34, 35,43, 56, 58, 102
substitutive repertoire 39
suggestion 38, 39
survival value 27
symbol 3, 4, 5, 6, 9, 10, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 43, 45, 50, 51, 52, 53, 54, 55, 56, 57, 58, 67, 68, 69, 70, 71, 72, 73, 77, 78, 79, 84, 88, 90, 101, 102, 105
symbol system 51, 59
symbolic given 17
symbolic function 14
symbolic repertoire 38, 39
symbolic logic 49, 50, 103
symbolical 21
symbolism 5, 6, 15, 16, 18, 22, 25, 28, 29, 31,0r 0 33, 34, 38, 44, 58, 64, 72, 75, 81, 90, 91, 101, 103
symbolize 22
symbolizing 18
synthesis 20
tactual 10, 18, 22
talker 6
talking 18, 19
thereness 8
thing 23
thinking 7, 8, 18, 19, 20, 24, 30
thought 1, 2, 3, 4, 6, 7, 9, 10, 11, 15, 16, 17, 18, 19, 20, 22, 23, 24, 30, 33, 36, 39, 40, 41, 42, 46, 64, 65, 68, 73, 74, 75, 77, 78, 89, 97, 98, 99, 101, 102
thought-about 9, 11, 18, 19, 20, 24
time 2
total-situation ethics 88
touch 11
trial and error 30, 34
truth 4, 23, 48, 59, 60, 61, 64, 65, 71, 103, 105
truth by definition 52
unconscious 44
understanding 75
universal 20
universe 2
valuation 83, 104
value 2, 4, 76, 81, 82, 83, 84, 88, 89, 98, 100, 104, 105
verbal response 12
visual image 18
visual imagery 11
word 18, 19, 22, 24, 40
world 27, 68
writer 6